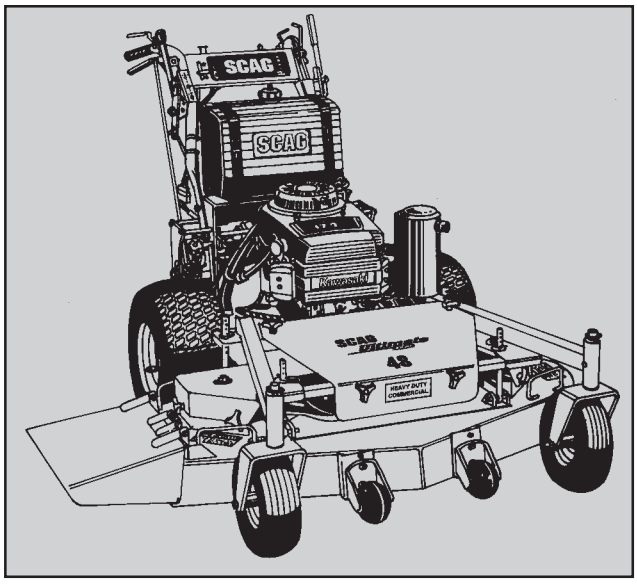
SCAG®
POWER EQUIPMENT

OPERATOR'S MANUAL

MODEL SWZU



THIS MANUAL CONTAINS THE OPERATING INSTRUCTIONS AND SAFETY INFORMATION FOR YOUR SCAG MOWER. READING THIS MANUAL CAN PROVIDE YOU WITH ASSISTANCE IN MAINTENANCE AND ADJUSTMENT PROCEDURES TO KEEP YOUR MOWER PERFORMING TO MAXIMUM EFFICIENCY. THE SPECIFIC MODELS THAT THIS BOOK COVERS ARE CONTAINED ON THE INSIDE COVER. BEFORE OPERATING YOUR MACHINE, PLEASE READ ALL THE INFORMATION ENCLOSED.

PART NUMBER 03067

WARNING:

FAILURE TO FOLLOW SAFE OPERATING PRACTICES MAY RESULT IN SERIOUS INJURY.

* Keep all shields in place, especially the grass discharge chute.
* Before performing any maintenance or service, stop the machine and remove the spark plug wire and ignition key.
* If a mechanism becomes clogged, stop the engine before cleaning.
* Keep hands, feet and clothing away from power-driven parts.
* Read this manual completely as well as other manuals that came with your mower.
* Keep others off the tractor (only one person at a time)

REMEMBER - YOUR MOWER IS ONLY AS SAFE AS THE OPERATOR!

Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of the personnel involved in the operation, transport, maintenance, and storage of the equipment.

This manual covers the operating instructions and illustrated parts list for:

SWZU36-15KH with a serial number of 4780001-4789999
SWZU48-17KA with a serial number of 4790001-4799999

Always use the entire serial number listed on the serial number tag when referring to this product.

SCAG POWER EQUIPMENT

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MEMBER

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Outdoor Power Equipment OPE CERTIFIED Technician

WE SUPPORT OPE TECHNICIAN CERTIFICATION

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INTRODUCTION

Your mower was built to the highest standards in the industry. However, the prolonged life and maximum efficiency of your mower depends on you following the operating, maintenance and adjustment instructions in this manual.

We encourage you to contact your dealer for repairs. All Scag dealers are informed of the latest methods to service this equipment and provide prompt and efficient service in the field or at their service shop. They carry a full line of Scag service parts.

A replacement Operator's Manual is available from your Scag Servicing Dealer or by contacting Scag Power Equipment, Service Department, at P.O. Box 152, Mayville, WI 53050. Please indicate the complete model and serial number of your Scag product.

USE OF OTHER THAN ORIGINAL SCAG REPLACEMENT PARTS WILL VOID THE WARRANTY.

The “Right” and “Left”, “Front” and “Rear” of the machine are referenced from the operator’s perspective when in the normal operating position and facing the forward travel direction.

GENERAL SAFETY INSTRUCTIONS

READ THIS OPERATOR'S MANUAL and instructions furnished with attachments.

Perform only those maintenance procedures described in this manual. If major repairs are ever needed or assistance is desired, contact an Authorized Scag Dealer. To ensure optimum performance and safety, always purchase genuine SCAG replacement parts and accessories.

Your safety and the safety of others depends significantly upon your knowledge and understanding of all correct operating practices and procedures of this machine.

SIGNAL WORDS

This symbol means **“Attention! Become Alert! Your Safety is Involved!"** The symbol is used with the following signal words to attract your attention to safety messages found on the decals and throughout this manual. The message that follows the symbol contains important information about safety. To avoid injury and possible death, carefully read the message! Be sure to fully understand the causes of possible injury or death.

Signal Word:

It is a distinctive word on safety decals and throughout this manual that alerts the viewer to the existence and relative degree of the hazard.

DANGER:

The signal word “DANGER” denotes that an extremely hazardous situation exists on or near the machine that could result in high probability of death or irreparable injury if proper precautions are not taken.

WARNING:

The signal word “WARNING” denotes that a hazard exists on or near the machine that can result in injury or death if proper precautions are not taken.

CAUTION:

The signal word “CAUTION” is a reminder of safety practices on or near the machine that could result in personal injury if proper precautions are not taken.

BEFORE OPERATING

1. Know the controls and how to stop quickly.

2. Do not allow children to operate the machine. Do not allow adults to operate the machine without proper instruction.

3. Remove all debris or other objects that might be picked up and thrown by the cutter blades. Keep all bystanders away from the mowing area.

4. Keep all shields, safety devices, and decals in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operating. Also, check all nuts, bolts and screws for proper tightness, to assure the machine is in safe operating condition.

5. Do not operate the machine while wearing sandals, tennis shoes, sneakers or shorts. Also, do not wear loose fitting clothing which could get caught in moving parts. Always wear long pants and substantial shoes. Wearing safety glasses and safety shoes is advisable and required by some local ordinances and insurance regulations.

6. Fill the fuel tank with clean, fresh gasoline, with a minimum octane rating of 87. Avoid spilling gasoline. Gasoline is highly flammable, handle it carefully.
   A. Use an approved gasoline container.
   B. Do not fill the tank while the engine is hot or running.
   C. Do not smoke while handling gasoline.
   D. Fill the fuel tank outdoors and up to approximately 1" (25 mm) below the bottom of the filler neck.
   E. Wipe up any spilled gasoline.

7. Before attempting to start the engine, move the speed adjustment lever into the neutral position, move the blade engagement switch to the OFF position, apply the parking brake, and move the neutral latches to neutral.

WHILE OPERATING

1. Start the engine when the neutral latches are in the neutral lock position, the cutter blades are disengaged, the parking brake is on and the speed adjustment lever is in the neutral position.

2. Do not run the engine in a confined area without adequate ventilation. Exhaust fumes are hazardous and could possibly be deadly.

3. Using the machine demands attention. To prevent loss of control:
   A. Mow only in daylight or when there is good artificial light.
   B. Watch for holes or other hidden hazards.
   C. Do not drive close to a drop-off, ditch, creek bank, or other hazard.
   D. Reduce speed when making sharp turns and when turning on hillsides.
   E. Always be sure of your footing. Keep a firm hold on the handles and walk---never run.
   F. Do not operate where conditions are slippery.

4. The discharge chute must always be installed and in the down position on the side discharge cutter deck except when the Scag optional grass catcher or mulching plate are properly installed. If the discharge area should plug, shut the engine off and wait for all movement to stop before removing the obstruction.

5. Disengage the blades and wait for them to stop before crossing gravel drives, walks or roads.

6. Shut the engine off and wait until the blades come to a complete stop before removing the grass catcher container.

7. Never raise the cutter deck while the blades are rotating.

8. Always park the mower and/or start the engine on a level surface. Apply the parking brake to prevent the mower from moving when you are not in the operator's position.

9. If the cutting blades should strike a solid object or the equipment should start to vibrate abnormally, stop the engine, disconnect the spark plug wire, and check immediately for the cause. Vibration is generally a warning of trouble. Check the machine for damaged or defective parts. Repair any damage before starting the engine or operating the cutter deck. Be sure the blades are in good condition and the blade bolts are tight.

10. Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing directions on slopes.

⚠WARNING:

DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. ALWAYS FOLLOW OSHA APPROVED OPERATION.

11. Do not touch the engine or muffler while the engine is running or soon after it is stopped. These areas could be hot enough to cause a burn.

12. Before leaving the operator's position or leaving the mower unattended, move the speed adjustment lever into the neutral position, place the neutral latches in the neutral lock position, apply the parking brake, and move the blade engagement switch to OFF. Shut the engine OFF and remove the key.

13. Do not pass or stand on the grass discharge side of any mower with the engine running. Stop operation when another person approaches.

14. Use only Scag approved riding attachments.

    Scag Approved Riding Attachments:
    RS-ZT
    Using unapproved attachments, (especially "stand-up" riding attachments) may be hazardous.

MAINTENANCE AND STORAGE

1. Disconnect the spark plug wire from the spark plug to prevent accidental starting of the engine when servicing, adjusting or storing the machine.

2. If the mower must be tipped to perform maintenance or adjustment, remove the battery, drain the gasoline from the fuel tank and the oil from the crankcase.

3. To reduce potential fire hazard, keep the engine free of excessive grease, grass, leaves and accumulations of dirt.

4. Be sure the machine is in safe operating condition by keeping nuts, bolts, and screws tight. Check the blade mounting bolts and nuts frequently to be sure they are tightened.

5. If the engine must be running to perform a maintenance adjustment, keep hands, feet, clothing and other parts of the body away from the cutter deck blades and other moving parts.

6. Do not overspeed the engine by changing governor settings. To be sure of safety and accuracy, have an authorized dealer check maximum engine speed with a tachometer.

7. The engine must be shut off before checking the oil or adding oil to the crankcase.

8. Allow the engine to cool before storing the mower in any enclosure such as a garage or storage shed. Make sure the fuel tank is empty if the machine is to be stored in excess of 30 days. Do not store the mower near any open flame or where gasoline fumes may be ignited by a spark.

9. Always store gasoline in a safety-approved, red container.

10. Be careful when servicing the battery as it contains acid, which is corrosive and could cause burns to skin and clothing.

11. Batteries release explosive gases when being charged or discharged. Keep batteries away from any source of sparks and/or flame.

12. Make sure all hydraulic connections are tight and all hydraulic hoses and lines are in good condition before starting the machine.

13. Hydraulic fluid is under high pressure. If you need service on your hydraulic system, please see your authorized Scag dealer.

INITIAL RUN-IN PROCEDURES (FIRST DAY OF USE OR APPROXIMATELY 10 HOURS)

1. Check the steering control rods and the speed control for neutral adjustment. (See Adjustments, page 6-8)

2. Check the tires for proper pressure.
   Caster Wheels 25 psi.
   Drive Wheels 15 psi.

3. Check for loose hardware. Tighten as needed.

4. Check the safety switches for proper adjustment:

   * The engine should crank and start if the machine is in neutral, the PTO engagement switch is OFF and the parking brake is ON.

5. Apply lubricant to all the grease fittings. Lubricant was applied at the factory. This is just a precautionary check to make sure that all the fittings have been lubricated.

MOWER OPERATION

1. Read and understand the safety instructions before attempting to operate this machine.

2. Before starting the engine:

   * Check the oil level in the engine and the hydraulic reservoir.
   * Fill the fuel tank with clean, fresh, lead-free gasoline.
   * Open the fuel valve on the bottom of the fuel tank.

-NOTE-

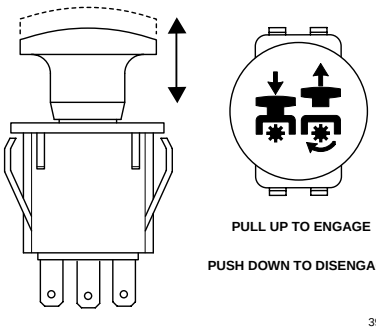
Use gasoline with an octane rating no less than 87.

   * The speed adjustment lever must be in NEUTRAL.
   * The blade clutch switch must be in the OFF position.
   * The neutral latches must be in the neutral lock position.
   * The key switch must be on.
   * The parking brake must be on.

3. Start the engine:

   * Choke as required. If the engine is cold, pull the choke knob out on the 17HP Kawasaki engine; or push the throttle control all the way forward on the 15HP Kohler engine. When the engine starts, slowly push the choke in (17HP) or pull back on the throttle (15HP). If the engine stalls, repeat the above operation. When the engine is warm, choking may not be necessary.

4. Engage the cutter blades by pulling the blade clutch switch into the ON position. Push the switch to the OFF position to disengage the cutter blades.



-NOTE-

When the PTO is engaged or (possibly) disen gaged, a squealing sound from the underside of the machine is normal. It is caused by the electric clutch plates meshing as the mower comes up to speed. For best equipment life, engage the clutch with the engine at 1/2 throttle, not under full load.

⚠ WARNING:

If you are not familiar with the operation of the hydrostatic drive and zero turn feature, practice turning and maneuvering with the hand controls before engaging the cutter blades.

5. Release the parking brake. Move the speed adjustment lever to the desired mowing speed.

-NOTE-

Top speed is suggested only for transport!

6. While squeezing the steering brake levers with both hands, release both neutral latches.

7. When the steering brake levers are released, the machine will travel straight. To make a right turn, squeeze the RH lever. To turn left, squeeze the LH lever.

8. TO STOP, squeeze both levers, lock the neutral latches, and move the speed adjustment lever to neutral.

9. To move the machine in reverse, squeeze up on both steering control levers.

10. To "freewheel" or move the machine around without the engine running, turn the dump valve levers located at the back of the pumps to the "freewheel" positions (see Figure 1). To operate the machine, the dump valve levers must be returned to the closed positions.

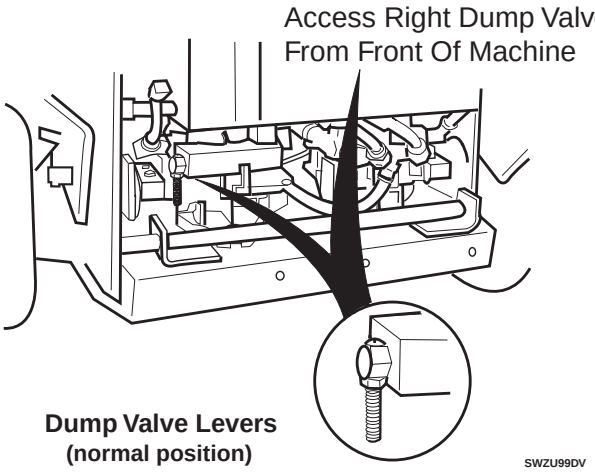


Figure 1. Dump Valves

CUTTER DECK BELT ADJUSTMENTS

-NOTE-

All the belts on the SWZU are spring loaded and do not require adjustment. Check the belts for excessive wear or damage daily for the first week. After the first week, check the belts monthly.

1. Remove the belt covers.

2. Inspect the belts for wear, cracking, or glazing. Contact your Scag dealer if any unusual wear is noted.

3. Replace the belt cover.

CUTTER DECK ADJUSTMENTS

Due to the many cutting conditions that exist, it is difficult to suggest a cutter deck setting that will work for every lawn. There are two adjustments that can be made on these decks, pitch and height.

PITCH is the angle of the blades (comparing front to rear). A 1/4" downward pitch (front of deck down) is recommended for best cutting performance.

HEIGHT is the nominal distance the blade is off of the ground. This measurement is made with the blades pointed side to side and distance is measured between cutting tip and ground.

Changes to the cutting height can be achieved by repositioning the cutter deck. (This adjustment will also effect the pitch of the deck). There are eight available positions from 1" to 4-1/2" (see Figure 2).

⚠ WARNING:

Do not adjust the cutting height with the mower blades rotating. Shut off the engine and remove the ignition key. Bodily injury could occur from the rotating blades.

1. Shut off the engine and remove the ignition key.
2. While holding up on the deck support handle, remove the two hairpins from the adjusting pins on one side of the cutter deck (Figure 2).
3. Lift or lower the deck to the desired cutting height and reinstall the hairpins. A deck height decal is located on the deck mounting frame as an aid in adjusting the deck to the desired height.
4. Repeat the above process on the opposite side of the cutter deck.

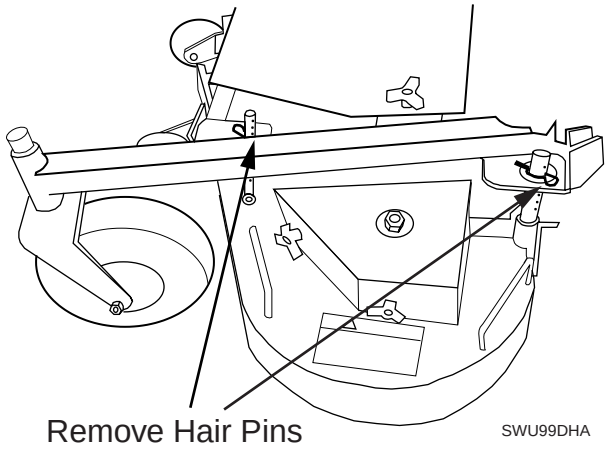


Figure 2. Cutting Height Adjustment

CUTTER DECK PITCH ADJUSTMENTS

The cutter deck pitch adjustment has been set at the factory an normally will not need to be changed. However, if the pitch needs to be adjusted due to service work performed on the deck, follow the procedure below (see Figure 3)..

1. Shut off the engine and remove the key.
2. Support the cutter deck with four blocks (you will be removing the hair pins to make this adjustment).
3. Remove the front hair pins from the front deck support pins.
4. Loosen the jam nuts on the deck support pins.
5. Turn the deck support pins to lengthen or shorten the pins to reach the desired result.
6. Tighten the jam nut , replace the hair pin, and remove the blocks. Check that the desired deck pitch is achieved.

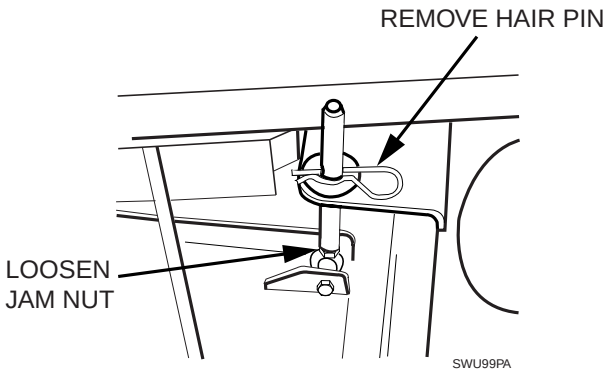


Figure 3. Deck Pitch Adjustment

CUTTER BLADES

Do not sharpen beyond 1/3 of the width of the blade. (See figure 4)

-NOTE-

Dress the blade with a file. Using a wheel grinder may burn the blade. Check the balance of the blade. If blades are out of balance, vibration and premature wear of spindle assembly can occur. See your authorized Scag dealer for blade balancing or special tools, if you choose to balance your own blades.

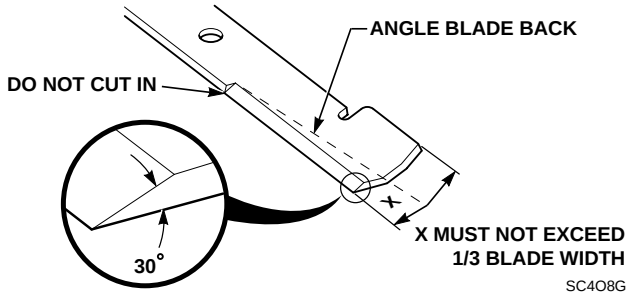


Figure 4. Blade Sharpening

COLD STARTING

In the spring and fall when the morning temperatures are cool it may be difficult to start the machine due to the parasitic load from the hydraulic drive. To relive this load pull out and up on the de-clutch chain located on the right side of the machine behind the tire. This will allow you to start the engine easily. When the engine has warmed up, slowly release the de-clutch chain to engage the hydraulic system.

NEUTRAL ADJUSTMENT

-NOTE-

Neutral has been set by your Scag dealer at the time of setup and normally does not need to be adjusted. If, however, you find that the neutral has come out of adjustment follow the procedure below.

1. Raise the drive wheels off the ground and block the caster wheels.

2. Make sure the speed control lever is in neutral, the steering control levers are in the neutral latch position, and the parking brake is on. Start the engine.

3. Release the parking brake an note if the tires are rotating.

4. Starting on the left side of the machine, rotate the tracking adjustment knob counter clockwise just until the LH wheel starts to creep forward. Make a note of the position of the adjusting knob (see Figure 4).

5. Turn the adjusting knob clockwise just until the wheel turns rearward. Make a note of the position of the adjusting knob. To adjust neutral, split the difference between the two noted positions of the adjusting knob.

6. Turn the engine off.

Figure 4. Neutral Adjustment

STEERING CONTROL ROD ADJUSTMENT

-NOTE-

This adjustment is made to allow the steering control levers to be moved out of the neutral latch without engaging reverse.

Before making this adjustment be sure that the speed control bearing is just touching the speed control cam and that the bellcrank bearing is resting in the center groove of the neutral cam.

1. Remove the speed control spring. Remove the steering control rod swivel hair pin. Check the location of the swivel in the slotted hole in the bell crank .

2. Turn the swivel joint on the steering control rods until the swivel joint is centered in the slot in the bellcrank.

3. Reinstall the speed control spring onto the swivel. Install the hair pin onto the swivel.

TRACKING ADJUSTMENT

-NOTE-

Before proceeding with this adjustment, be sure that the tire pressures are correct. (see page 4) and that the neutral adjustment and the steering control rod adjustment have been completed.

1. With the machine on a flat level surface, start the engine and place the speed adjustment lever into the speed that will most often be used.

2. Squeeze the steering control levers and release the neutral latch. Slowly release the steering control levers, allowing the machine to move forward.

3. If the machine pulls to one side, turn the tracking adjustment knob on the slower side counter clockwise until the machine tracks straight (see Figure 5).

4. Bring the steering control levers back to the neutral lock position and check to see that the machine does not creep forward on the adjusted wheel.

5. If the machine creeps in neutral you have moved out of the neutral band and will have to turn the tracking adjustment knob clockwise until the machine does not creep.

6. Repeat steps 1. and 2. If the machine pulls to one side, turn the tracking adjustment knob on the faster side clockwise until the machine tracks straight.

8. If tracking cannot be achieved, contact your Scag servicing dealer.

Figure 5. Tracking Adjustment

PARKING BRAKE

1. Adjust the parking brake so that when the brake hand lever is against the stop on the handle bar, the brake levers on the brake shaft weldment are against the stops on the engine deck.

⚠ CAUTION:

Adjust the brake only enough to hold the machine. Excessive force may cause damage to the machine or brake components.

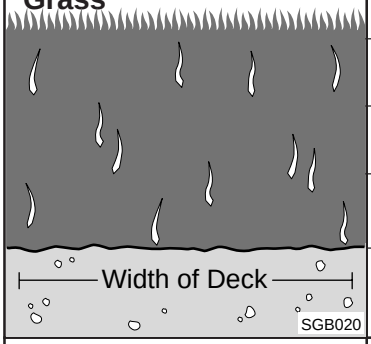
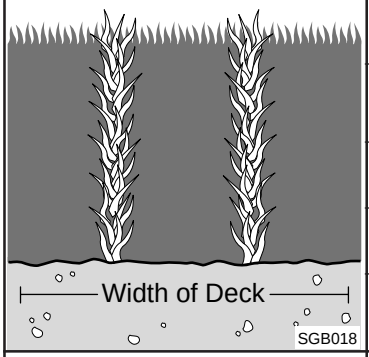
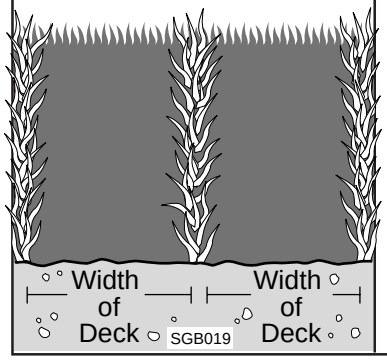
2. Adjust the brake actuator rod on either side of the machine to obtain proper brake adjustment.

LUBRICATION & MAINTENANCE

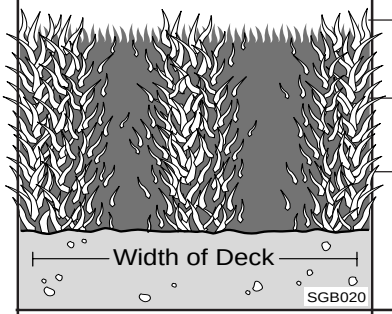
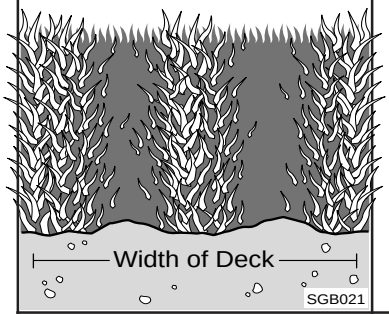
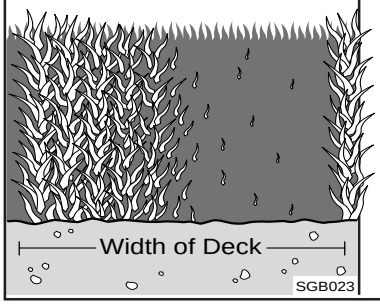
+ Grease spindle until grease comes out the relief valve
Compatible Greases: Lidok EP #2 (found at industrial shops)
Ronex MP (Exxon service stations)
Shell Alvania (Shell service stations)
Mobilux #2 (Mobil service stations)
Super Lub M EP #2 (Conoco service stations)

BREAK-IN	8 HOURS (DAILY)	40 HOURS (WEEKLY)	100 HOURS (BIWEEKLY)	500 HRS OR ANNUALLY	PROCEDURE	COMMENTS
X					Check all hardware for proper tightness	
X					Change engine oil and filter at 5 hours	
	X				Check engine oil	Do not over fill
	X				Remove debris from under belt cover	More often if needed
	X				Sharpen cutter blades	More often if needed
	X				Grease spindle bearings	+ US Lithium MP White Grease 2125
	X				Clean air filter	More often if needed
	X				Check tire pressure	Add or adjust as required
		X			Check battery level	Adjust as needed
			X		Replace air filter	More often if needed
			X		Grease caster wheel bearings	Chassis grease
			X		Grease caster wheel pivot shafts	Chassis grease
			X		Grease idler pulley bracket on cutter deck	Chassis grease
			X		Change hydrostatic oil filter	Clean area before removing the filter
			X		Change engine oil and filter	See engine manufacturer information
			X		Grease idler arm pivots	Chassis grease
			X		Grease brake hand lever	Chassis grease
			X		Grease brake actuator levers	Chassis grease
				X	Check all hardware for proper tightness	
				X	Adjust air gap on electric clutch	Contact your Scag dealer for information about making this adjustment.
				X	Drain hydraulic system and replace oil	

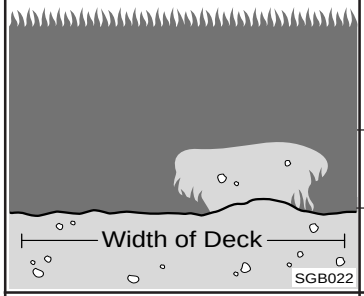
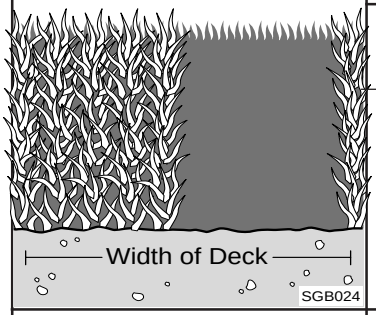
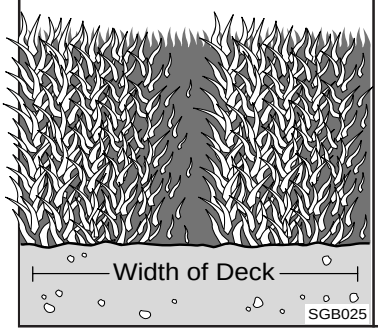
TROUBLESHOOTING CUTTING CONDITIONS

CONDITION	CAUSE	CURE
Stringers - Occasional Blades of Uncut Grass 	Low engine RPM	Run engine at full 3600 RPM
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Dull blades, incorrect sharpening	Sharpen blades
	Deck plugged, grass accumulation	Clean underside of deck
	Belts slipping	Adjust belt tensions
Streaking - Strips of Uncut Grass in Cutting Path 	Dull, worn blades	Sharpen blades
	Incorrect blade sharpening	Sharpen blades
	Low engine RPM	Run engine at full 3600 RPM
	Belt slipping	Adjust belt tension
	Deck plugged, grass accumulation	Clean underside of deck
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Bent blades	Replace blades
Streaking - Strips of Uncut Grass Between Cutting Paths 	Not enough overlapping between rows	Increase the overlap of each pass

TROUBLESHOOTING

CONDITION	CAUSE	CURE
Uneven Cut on Flat Ground - Wavy High-Low Appearance, Scalloped Cut, or Rough Contour  SGB020	Lift worn off of blade	Replace blade
	Blade upside down	Mount with cutting edge toward ground
	Deck plugged, grass accumulation	Clean underside of deck
	Too much blade angle (deck pitch)	Adjust pitch and level
	Deck mounted improperly	See your authorized SCAG dealer
	Bent spindle area	See your authorized SCAG dealer
	Dull blade	Sharpen blade
Uneven Cut on Uneven Ground - Wavy Appearance, High-Low Scalloped Cut, or Rough Contour  SGB021	Uneven ground	May need to reduce ground speed, raise cutting height, and/or change direction of cut
Sloping Ridge Across Width of Cutting Path  SGB023	Tire pressures not equal	Check and adjust tire pressure
	Wheels uneven	Check and adjust tire pressure
	Deck mounted incorrectly	See your authorized SCAG dealer

TROUBLESHOOTING

CONDITION	CAUSE	CURE
Scalping - Blades Hitting Dirt or Cutting Very Close to the Ground 	Low tire pressures	Check and adjust pressures
	Ground speed too fast	Slow speed to adjust for conditions
	Cutting too low	May need to reduce ground speed, raise cutting height, change direction of cut, and/or change pitch and level
	Rough terrain	May need to reduce ground speed, raise cutting height, and/or change direction of cut
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
Step Cut Ridge in Center of Cutting Path 	Blades not mounted evenly	Adjust pitch and level
	Bent blade	Replace blade
	Internal spindle failure	See your authorized SCAG dealer
	Mounting of spindle incorrect	See your authorized SCAG dealer
Slope Cut - Sloping Ridges Across Width of Cutting Path 	Bent spindle mounting area	See your authorized SCAG dealer
	Internal spindle failure	See your authorized SCAG dealer
	Bent deck housing	See your authorized SCAG dealer

TECHNICAL SPECIFICATIONS

ENGINES

General Type:	Heavy duty industrial/commercial
Brand:	Kohler, Kawasaki,
Models:	Kohler CV15T; Kaw. FH500V
Horsepower:	Kohler 15HP; Kaw. 17HP
Type:	4 cycle gas, vertical shaft engines
Displacement:	Kohler: 15HP = 426cc Kawasaki: 17HP = 494cc
Cylinders:	Kohler - 1 cast iron; Kawasaki - 2 cast iron
Governor:	Mechanical type governor with variable speed control set at 3600 rpm (±75 rpm), idle set at 1200 rpm (±75 rpm)
Exhaust Group:	Single exhaust canister muffler
Fuel Pump Group:	Varied - See manufacturer's specifications
Oil Pump Group:	Varied - See manufacturer's specifications
Valve Group:	Varied - See manufacturer's specifications
Starter/Electrical:	Electronic Ignition with recoil starter

ENGINE DECK

Thickness:	7 gauge steel
Fuel Tank:	5 gallon (19.0 liters) seamless polyethylene
Drive Wheels/Tires:	SWZU36 - 18 x 6.50-8 four-ply pneumatic tubeless SWZU48 - 18 x 8.50-8 four-ply pneumatic tubeless
Brakes:	Dynamic braking through hydro drive system
Axles:	1" tapered
Handle Bars:	1-1/4" diameter

DRIVE SYSTEM

Type:	Hydro drive with two variable displacement pumps and two cast-iron high torque motors
Hydro Pumps:	Two Hydro-Gear Model BDP 10L pumps with dump valves for movement without running the engine
Drive Wheel Motors:	Two 12 cu. inch cast-iron high torque motors
Hydro Fluid Cooling Group:	4 qt. capacity cooling, reservoir, uses SAE 20W50 fluid and 10 micron filter
Steering / Travel Control::	Independent handle controls for each wheel, squeeze to move from forward to neutral to reverse, neutral lock lever, speed range controlled with single lever (patented design), "Adjust-A-Trac" in-field tracking adjustment with no tools necessary
Parking Brakes:	7.5" drum, band brake, one on each wheel
Dump Valves:	Allows for movement without engine running
Cold Start:	"De-Clutch Cold-Start" enhances cold weather starting using a pull chain to relieve pump pressure
Axles:	1" tapered motor shafts
Wire Harness:	14 gauge wire
Safety Group:	Handle actuated operator presence system (patented design), blade / clutch and transmission interlock to engine kill
Forward Speed Range:	0 to 7.4 mph
Reverse Speed Range:	0 to 3.0 mph

TECHNICAL SPECIFICATIONS (CON'T.)

CUTTER DECKS	SWUM 36, SWUM 48
Type:	Out-front design with anti-scalp rollers
Construction:	SWUM36,48: 7-gauge steel with 7-gauge (3/16") steel skirt
Cutting Width:	35.5" (90.2 cm), 48.0 (122.0 cm)
Cutting Height Adjustment:	Adjustable from 1" to 4-1/2" in 1/2" increments
Cutter Blades:	.204 thick, milled edge, 5150 alloy steel SWUM 36: Two (2) 18" SWUM 48: Three (3) 16.5"
Blade Engagement:	Electric blade brake clutch with instrument panel switch
Discharge Opening:	Extra wide 11.5", discharge opening with spring loaded discharge chute
Caster Wheels:	11x 4.5-5 smooth tread flotation, split rims, roller bearings, with quick pin removal
Spindles:	Cast housing, taper roller bearing, low maintenance with top access grease fitting and grease overfill relief poppet
Spindle Pulleys:	Cast-iron with easily removed taper hubs
Idler Pulley:	5" diameter pulley, welded and riveted construction, 1-3/8" O.D. Bearing
Idler Arm:	Heavy duty dual ball bearing mounting
Cutter Deck Belts:	B-section with Kevlar cord

ADDITIONAL SPECIFICATIONS

OPTIONAL ITEMS/ATTACHMENTS

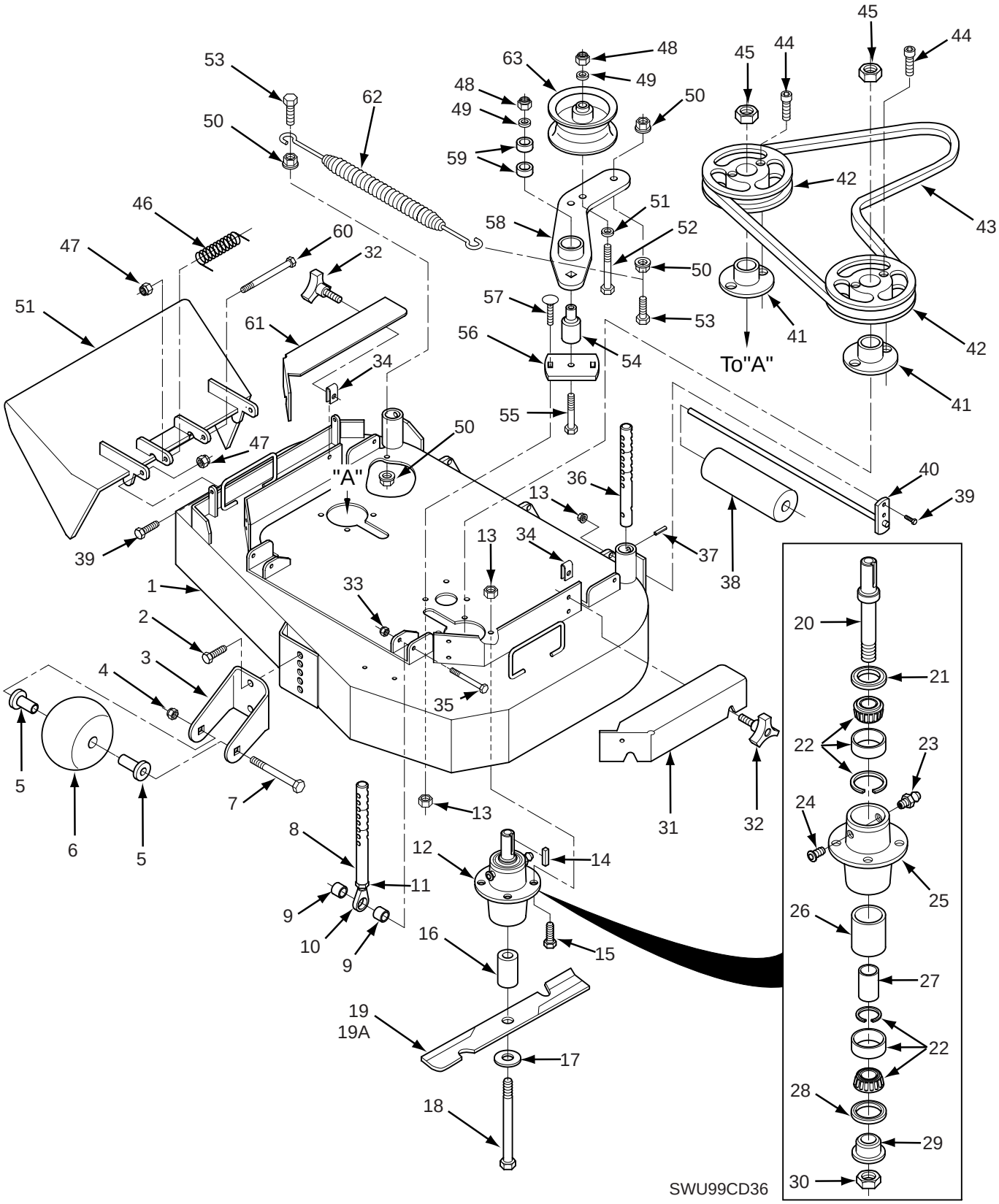
Fabric Grass Catcher:	GC-F4 Grass Catcher with 4 cubic ft. capacity
Metal Grass Catcher:	GC-4D Grass Catcher with 4 cubic ft. capacity and rope pull dump or pick-up and dump
Steerable Sulky:	RS-ZT Steerable Sulky with padded seat and full articulation for zero-radius turning
Mulching Plate:	Steel plate fits over discharge opening. No blade change or or removal required. Installs and removes in the field.

APPROXIMATE DIMENSIONS	SWZU36	SWZU48
Length:	77.5"	76.0"
Length with Grass Catcher:	77.5"	76.0"
Tracking Width:	36.0"	38.0"
Width:	46.5"	58.0"
Width (with discharge chute up):	37.5"	48.0"
With with grass catcher:	55.0"	64.0"
Height:	43.0"	43.0"
Height with grass catcher:	43.0"	43.0"
Weight	575 lbs.	640 lbs.
Weight with grass catcher:	615 lbs.	680 lbs.
Turning Radius:	Zero	Zero

Date of Issue: April, 1999
Specifications Subject To Change Without Notice

Notes

36" CUTTER DECKS

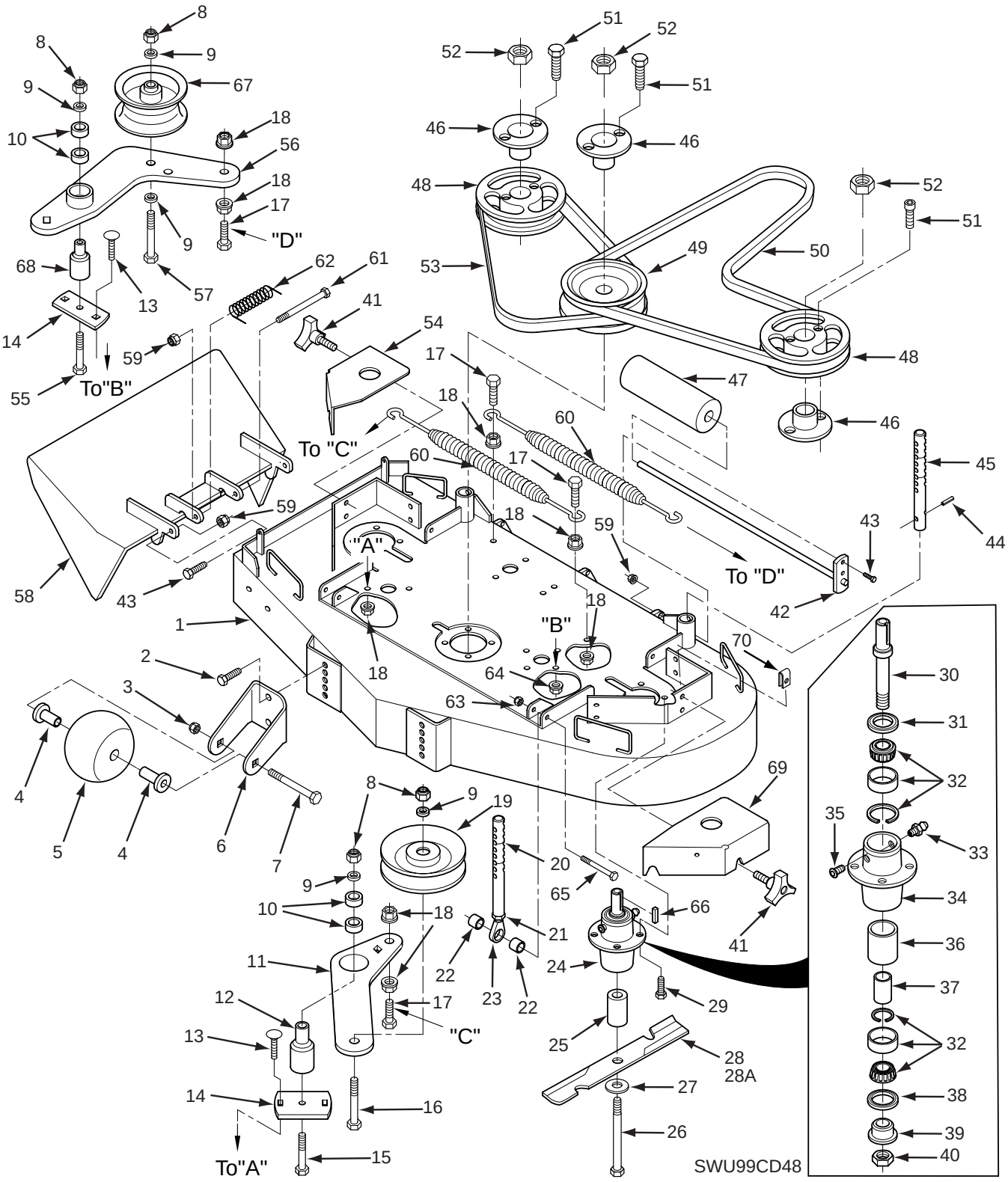


36" CUTTER DECKS

Ref. No.	Part Number	Description
1	461172	Cutter Deck (Includes Decals)
2	04017-27	Capscrew, 3/8-16 x 1.0" Serrated Flange Hex Hd
3	422478	Bracket, Anti-Scalp Wheel
4	04021-05	Lock Nut, 3/8-16 Center Lock
5	48100-15	Bushing, 376 ID Oilite
6	481632	Wheel, Anti-Scalp (Incl. Item 5)
7	04003-26	Bolt, Carriage 3/8-16 x 4.0"
8	481838	Pin Assy., Deck Adj. (Incl. Items 10 & 11)
9	43512	Spacer, Deck Adjustment Pin
10	481539	Rod End, Male 3/8-24 RH Thread
11	04020-25	Nut, 3/8-24 Jam
12	46631	Spindle Assembly
13	04019-03	Nut, 5/16-18 Serrated Flange
14	04063-08	Key,1/4 x 1/4 x 2.0"
15	04001-10	Bolt, Hex Head 5/16-18 x 1.25"
16	43309	Spacer, Spindle
17	04040-10	Flatwasher, 5/8 W
18	04001-41	Bolt, Hex Head 5/8-11 x 9.50"
19	48108	Cutter Blade, 18"
19A	48185	Cutter Blade, 18" Hi Lift
20	43298	Spindle Shaft
21	481024	Seal, Cutter Spindle Top
22	481022	Tapered Bearing Set (Two Bearings W/Race)
23	48114-04	Grease Fitting
24	48677	Relief Fitting, Cutter Spindle
25	43294	Spindle Housing
26	43312	Spacer, Outside
27	43296	Spacer, Inside
28	481025	Seal, Cutter Spindle Bottom
29	43297	Spindle Bushing
30	481035	Nut, Spindle
31	422762	Belt Cover, LH
32	481625-01	Wing Nut, 3/8-16
33	04021-09	Nut, 3/8-16 Elastic Stop
34	04110-03	U-Nut, 3/8-16
35	04001-31	Bolt, Hex Head 3/8-16 x 2.50"
36	43515	Pin, Deck Adj. Rear
37	04060-08	Pin, Sloted Spring 3/16 x 1.50"
38	48038	Guide, Roller
39	04001-09	Bolt, Hex Head 5/16-18 x 1.0"
40	451118	Roller Shaft
41	48926	Tapered Hub
42	48924	Pulley
43	481880	Belt, Cutter Deck
44	04015-14	Capscrew, Socket Head. 1/4-20 x 1.375"
45	04020-09	Hex Nut, 5/8-11
46	481050	Spring, Chute Return
47	04021-10	Hex Nut, 5/16-18 Elastic Stop
48	04021-09	Hex Nut, 3/8-16 Elastic Stop
49	04043-04	Flatwasher, 3/8 (.938 x .391 x .105)
50	04019-04	Nut, 3/8-16 Serrated Flange
51	461054	Discharge Chute
52	04001-51	Capscrew, Hex Head 3/8-16 x 3.75"
53	04001-136	Capscrew, Hex Head 3/8-16 x 1.50"
54	43510	Pivot, Idler - Long
55	04001-62	Capscrew, Hex Head 38/16 x 3.25"
56	422713	Base, Idler Pivot
57	04003-04	Bolt, Carriage 5/16-18 x 1.0"
58	461174	Idler Arm Weldment
59	48224	Ball Bearing
60	04001-108	Bolt, Hex Head 5/16-18 x 4.25"
61	422763	Belt Cover, RH
62	481597	Spring, Deck Idler
63	48550	Pulley, Idler

* Common hardware which should be purchased locally. All bolts are Grade 5 plated, all other fasteners zinc plated.

48" CUTTER DECKS



48" CUTTER DECKS

Ref. No.	Part No.	Description
1	461173	Cutter Deck With Decals
2	04017-27	Capscrew, 3/8-16 x 1.0" Serrated Flange
3	04021-05	Lock Nut, 3/8-16 Center Lock
4	48100-15	Bushing, 376 ID Oilite
5	481632	Wheel, Anti-Scalp
6	422478	Bracket, Anti-Scalp Wheel
7	04003-26	Bolt, Carriage 3/8-16 x 4.0"
8	04021-09	Hex Nut, 3/8-16 Elastic Stop
9	04043-04	Flatwasher, 3/8 (.938 x .391 x .105)
10	48224	Ball Bearings
11	461175	Idler Arm RH
12	43503	Pivot, Idle - Short
13	04003-04	Bolt, Carriage 5/16-18 x 1.0"
14	422713	Base, Idler Pivot
15	04001-31	Capscrew, Hex Head 3/8-16 x 2.50"
16	04001-45	Capscrew, Hex Head 3/8-16 x 2.0"
17	04001-136	Capscrew, Hex Head 3/8-16 x 1.50"
18	04019-04	Nut, 3/8-16 Serrated Flange
19	48181	Pulley, Idler
20	481838	Pin Assembly (Incl. 21 & 23)
21	04020-25	Nut, 3/8-24 Jam
22	43512	Spacer, Deck Adjustment Pin
23	481539	Rod End, Male 3/8-24
24	46631	Spindle Assembly
25	43309	Spacer, Spindle
26	04001-41	Bolt,Hex Head 5/8-11 x 9.50"
27	04040-10	Flatwasher, 5/8 W
28	48110	Cutter Blade 16-1/2"
28A	48184	Cutter Blade 16-1/2" Hi Lift
29	04001-10	Bolt, Hex Head 5/16-18 x 1.25"
30	43298	Spindle Shaft
31	481024	Seal, Cutter Spindle - Top
32	481022	Tapered Bearings (Two)
33	48114-04	Grease Fitting
34	43294	Spindle Housing
35	48677	Relief Fitting, Cutter Spindle
36	43312	Spacer Outside
37	43296	Spacer, Inside
38	481025	Seal, Cutter Spindle - Bottom
39	43297	Spindle Bushing
40	481035	Nut, Spindle
41	481625-01	Wing Nut, 3/8-16
42	451118	Roller Shaft
43	04001-09	Bolt, Hex Head 5/16-18 x 1.0"
44	04060-08	Pin, Slotted Spring 3/16 x 1.50"
45	43515	Pin, Deck Adjustment Rear
46	48926	Tapered Hub
47	48038	Guide, Roller
48	48924	Pulley
49	48923	Pulley, 5.75 Double Grove
50	481881	Belt, Deck Drive
51	04015-14	Capscrew, Socket Head 1/4-20 x 1.375"
52	04020-09	Hex Nut, 5/8-11
53	48087	Belt, Cutter Deck
54	422745	Belt Cover, RH
55	04001-62	Capscrew, Hex Head 3/8-16 x 3.25"
56	461174	Idler Arm Weldment
57	04001-51	Capscrew, Hex Head 3/8-16 x 3.75"
58	461054	Discharge Chute
59	04019-03	Nut, 5/16-18 Serrated Flange
60	481597	Spring, Deck Idler
61	04001-08	Bolt, Hex Head 5/16-18 x 4.25"
62	481050	Spring, Chute Return
63	04021-09	Nut, 3/8-16 Elastic Stop
64	04019-03	Nut, 5/16-18 Serrated Flange
65	04001-31	Bolt, Hex Head 3/8-16 x 2.50"
66	04063-08	Key, 1/4 x 1/4 x 2.0"
67	48550	Pulley, Idler
68	43510	Pivot, Idler - Long
69	422744	Belt Cover LH
70	04110-03	U-Nut, 3/8-16

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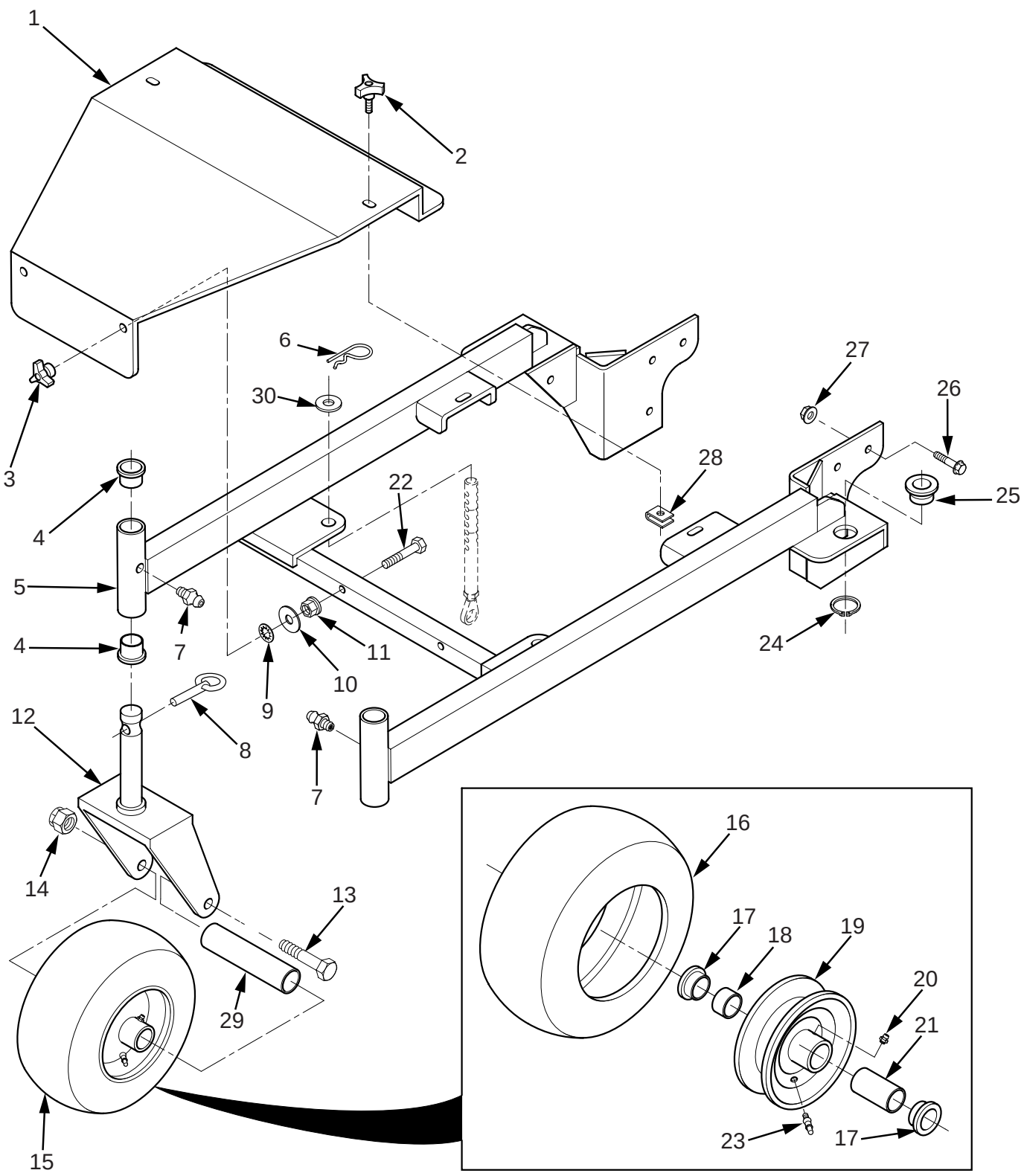
36" DECK FRAME



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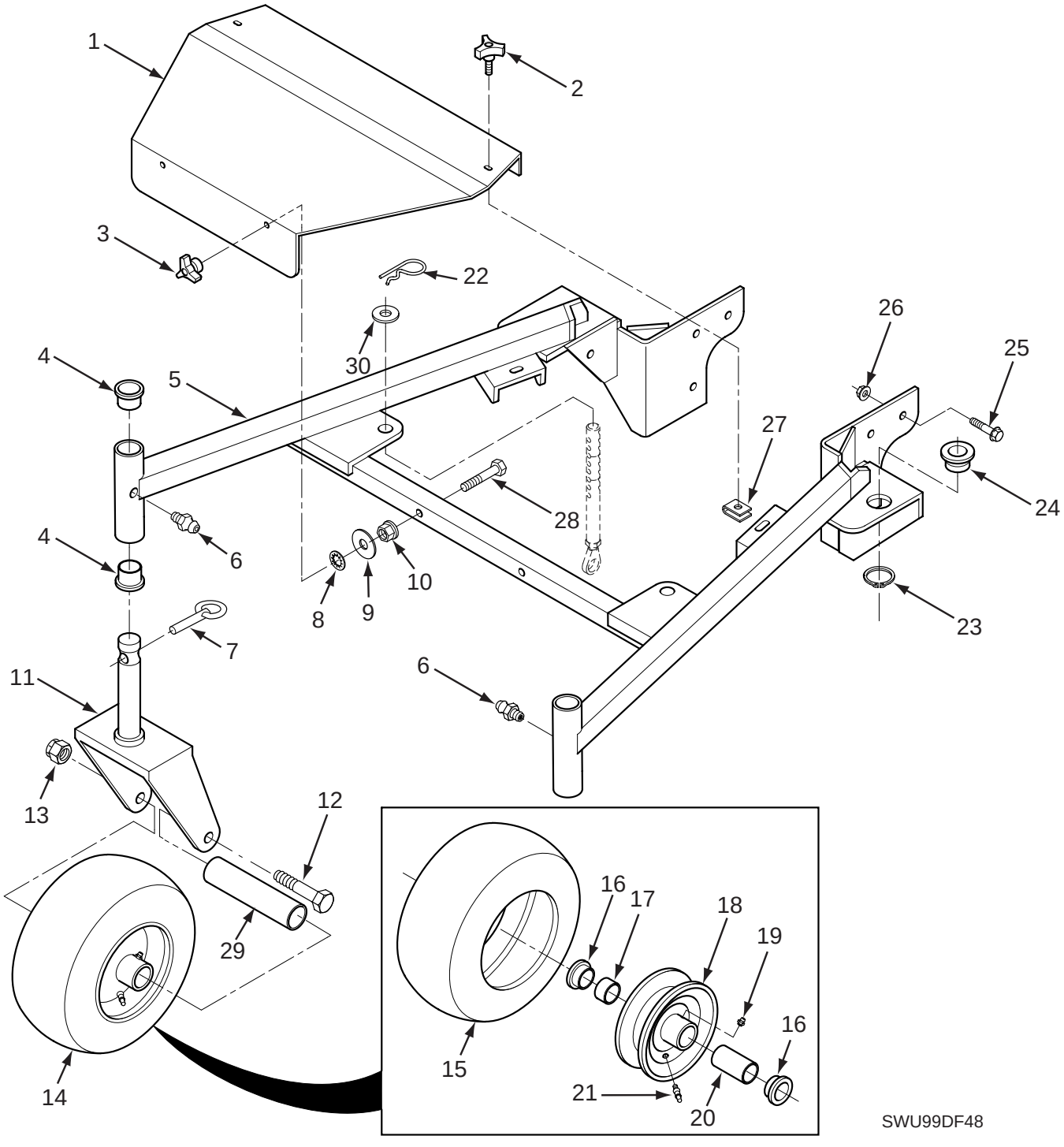
36" DECK FRAME

Ref. No.	Part No.	Description
1	461170	Belt Cover With Decal
2	481625-01	Knob With Stud
3	04029-03	Knob, Deck Cover Mounting
4	48100-08	Bushing, Caster
5	451097	Frame Weldment, Deck Mounting - 36"
6	04062-04	Hair Pin Cotter, .177 x 3.25"
7	48114-04	Grease Fitting Str. 1/4-28 Self Tap
8	04066-01	Quick Pin,.438 Dia
9	04024-02	Nut, Push-On - 3/8 Thd.
10	04041-07	Flatwasher, 3/8 - (.391 x .938 x .105)
11	04019-04	Nut, 3/8-16 Serrated Flange Hex Head
12	45325	Yoke, Caster Wheel
13	04001-80	Capscrew, Hex Head 1/2-13 x 6.50"
14	04021-07	Locknut, 1/2-13 Elastic Stop
15	481843	Wheel Assembly, Caster
16	481845	Tire, 11 x 4.00-5
17	481770	Retainer
18	481846	Roller Bearing
19	481844	Rim, 5.0 x 2.75 With Zerk & Valve
20	48114-05	Grease Fitting Str.1/4-28
21	481769	Roller Bearing .625 x 3.25"
22	04001-46	Capscrew, Hex Head 3/8-16 x 2.25"
23	**	Tire Valve, Purchase Locally
24	04050-16	Retaining Ring 1.50 Ext.
25	43530	Bushing, Deck Adjustment Pin
26	04017-42	Capscrew, Hex Head 7/16-14 x 1.0"
27	04019-05	Nut, 7/16-14 Serrated Flange Hex
28	04110-03	U-Nut, 3/8-16
29	43511	Sleeve, Caster Wheel
30	04040-10	Flatwasher, 5/8 - (..688 x 1.75 x .134)

** Common hardware which should be purchased locally. All bolts are Grade 5 plated, all other fasteners zinc plated.

48" DECK FRAME



48" DECK FRAME

Ref. No.	Part No.	Description
1	461171	Belt Cover With Decal
2	481625-01	Knob With Stud
3	04029-03	Knob, Deck Cover Mounting
4	46163	Bushing, Caster
5	451098	Frame Weldment, Deck Mounting - 48"
6	48114-04	Grease Fitting Str. 1/4-28 Self Tap
7	04066-01	Quick Pin,.438 Dia
8	04024-02	Nut, Push-On - 3/8 Thd.
9	04041-07	Flatwasher, 3/8 (.391 x .938 x .105)
10	04019-04	Nut, 3/8-16 Serrated Flange Hex Head
11	45325	Yoke, Caster Wheel
12	04001-80	Capscrew, Hex Head 1/2-13 x 6.50"
13	04021-07	Locknut, 1/2-13 Elastic Stop
14	481843	Wheel Assembly, Caster
15	481845	Tire, 11 x 4.00-5
16	481770	Retainer
17	481846	Roller Bearing
18	481844	Rim, 5.0 x 2.75 With Zerk & Valve
19	48114-05	Grease Fitting Str.1/4-28
20	481769	Roler Bearing .625 x 3.25"
21	*	Tire Valve, Purchase Locally
22	04062-04	Hair Pin Cotter, .177 x 3.25"
23	04050-16	Retaining Ring 1.50 Ext.
24	43530	Bushing, Deck Adjustment Pin
25	04017-42	Capscrew, Hex Head 7/16-14 x 1.0"
26	04019-05	Nut, 7/16-14 Serrated Flange Hex
27	04110-03	U-Nut, 3/8-16
28	04001-46	Capscrew, Hex Head 3/8-16 x 2.25"
29	43511	Sleeve, Caster Wheel
30	04040-10	Flatwasher, 5/8 - (.688 x 1.75 x .134)

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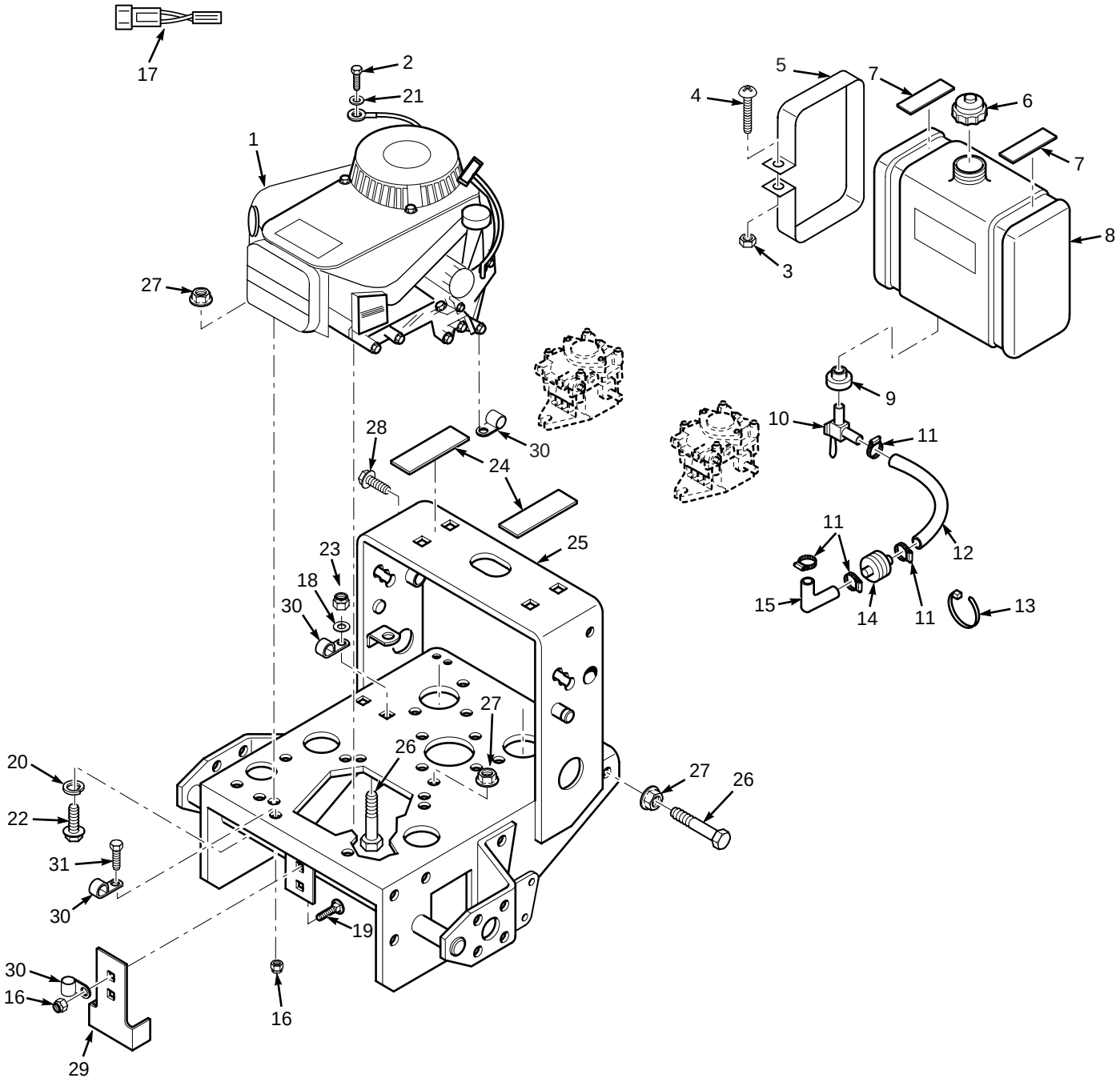
ENGINE DECK



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ENGINE DECK

Ref. No.	Part No.	Description	15KH	17KA
1	481757	Engine, 15KH Kohler	x	
	481563	Engine, 17KA Kawasaki		x
2	04002-07	Bolt, Hex Head M8-1.25 x 10mm	x	x
3	04020-02	Hex Nut, 1/4-20	x	x
4	04010-10	Screw, 1/4-20 x 2" Rnd. Hd Phillips	x	x
5	421239	Strap, Fuel Tank	x	x
6	481603	Cap, Fuel Tank	x	x
7	48292	Pad, Rubber-Fuel Tank Upper	x	x
8	46846	Fuel Tank Assembly (Includes Items 9, 10)	x	x
9	48309	Bushing	x	x
10	48308	Valve, Fuel Shut-Off	x	x
11	48059-01	Clamp, Fuel Hose	x	
	48059-02	Clamp, Fuel Hose (KA Only)		x
12	48058	Fuel Hose, 1/4 I.D. x 20" (KA Only)		x
	48058	Fuel Hose, 1/4 I.D. x 23"	x	
13	48028-05	Cable Tie	x	x
14	48057-02	Fuel Filter	x	x
15	48179	Fuel Hose, 7/32 I.D. x 3.5"	x	x
16	04021-10	Nut, Hex Elastic Stop 5/16-18	x	x
17	481717	Wire Harness Adapter, 17KA		x
18	04040-14	Flat Washer, 14"	x	x
19	04003-04	Bolt, Carriage 5/16-18 x 1"	x	x
20	04030-03	Lock Washer, 5/16"	x	x
21	04031-09	Lock Washer, 5/16" Int. Tooth	x	x
22	04017-19	Capscrew, Hex Serrated Flange 5/16-18 x 1.5"	x	
	04002-01	Bolt, Hex Head M8-1.25 x 30mm		x
23	04021-08	Nut, Hex Elastic Stop 1/4-20	x	x
24	48205	Pad, Rubber-Fuel Tank Lower	x	x
25	461182	Engine Deck, 16" Wide W/Decals	x	x
26	04003-09	Bolt, Hex Head 1/4-20 x 1.25"	x	x
27	04019-02	Nut, Hex Serrated Flange 1/4-20	x	x
28	04017-18	Capscrew, Hex Serrated Flange 5/16-18 x 1.25"	x	x
29	48030-09	Clamp	x	x
30	421370	Clutch Bracket	x	x
31	04001-08	Bolt, Hex Head 5/16-18 x .75"	x	x

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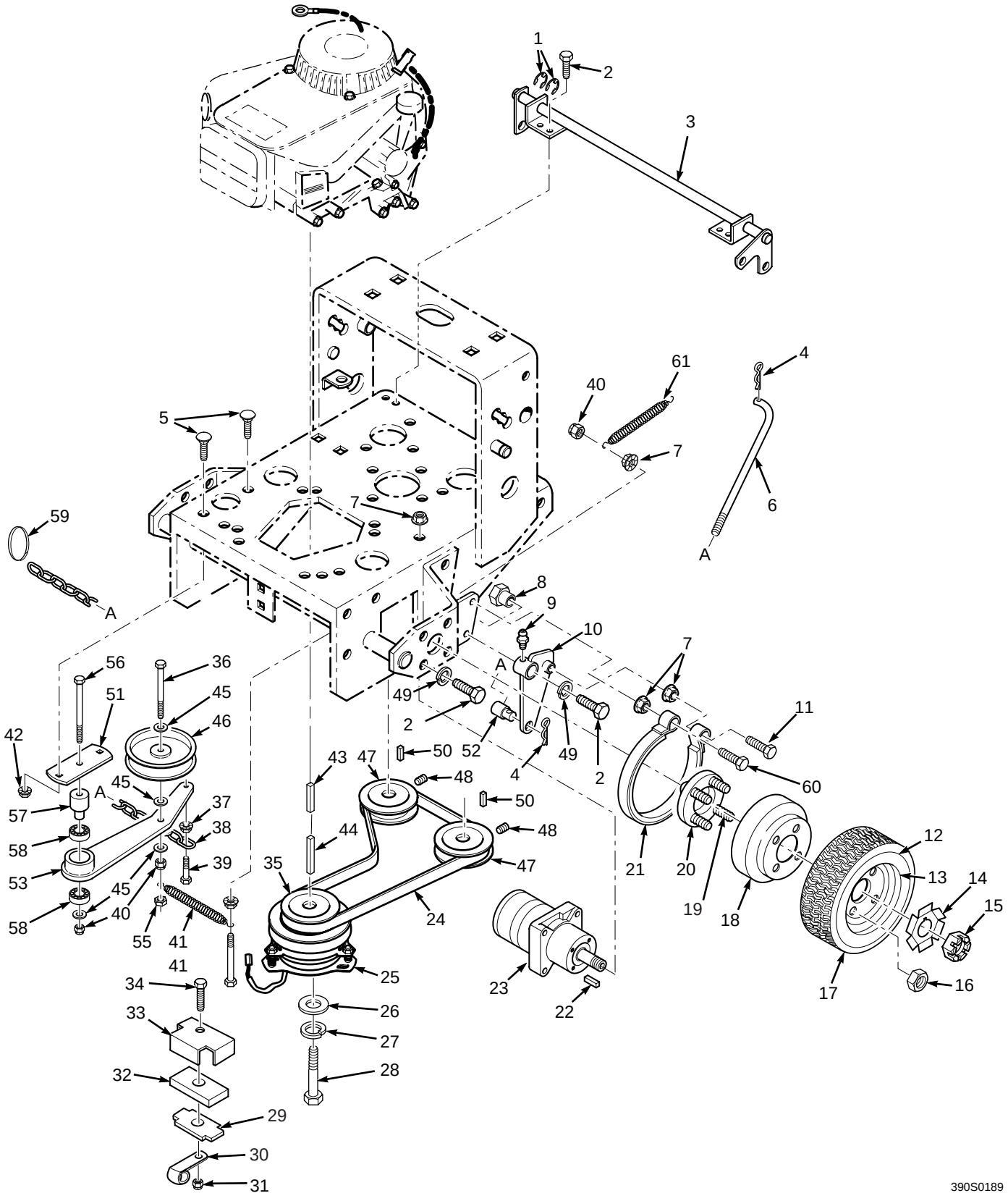
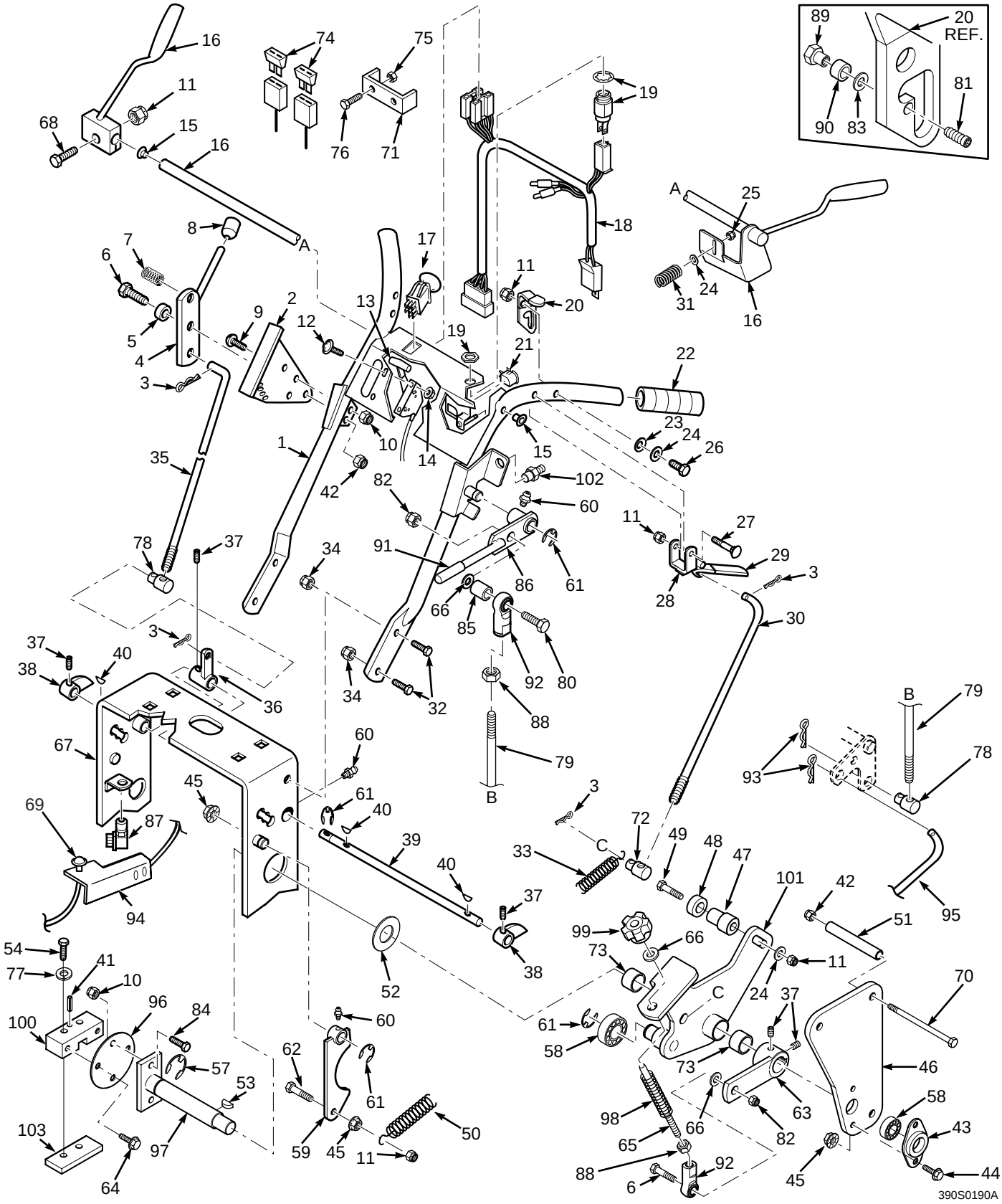
DRIVE AND BRAKE COMPONENTS



DRIVE AND BRAKE COMPONENTS

Ref. No.	Part No.	Description	15KH	17KA
1	04050-02	Retaining Ring, 3/4" Ext. "E"	X	X
2	04001-19	Bolt, Hex Head 3/8-16 x 1"	X	X
3	45842	Brake Shaft Assembly Weldment	X	X
4	04062-01	Hair Pin, Cotter (.094 x 1.62)	X	X
5	04003-12	Bolt, Carriage 5/16-18 x .75"	X	X
6	44126	Brake Rod, Lower	X	X
7	04019-04	Nut, Hex Serrated Flange 3/8-16	X	X
8	43415	Bushing, Brake	X	X
9	48114-05	Grease Fitting	X	X
10	45860	Brake Actuator Weldment, LH	X	X
	45861	Brake Actuator Weldment, RH	X	X
11	04001-46	Bolt, Hex Head 3/8-16 x 2.25"	X	X
12	481869	Tire, 18 x 8.50-8, 4 Ply	X	X
13	481868	Rim Assembly	X	X
14	422214	Lockwasher, Wheel Motor	X	X
15	48679	Nut, Hex Castle 3/4-28	X	X
16	04028-01	Nut, Lug	X	X
17	481867	Wheel Assembly (#12 tire mounted to #13 rim)	X	X
18	422215	Brake Drum	X	X
19	04008-01	1/2-20 Serrated Bolt	X	X
20	46928	Hub, Wheel	X	X
21	481470	Brake Band, 7.5"	X	X
22	04063-07	Key, Woodruff 3/16 x .75"	X	X
23	481416	Wheel Motor	X	X
24	481837	Belt, Pump Drive	X	X
25	461073	Electric Clutch	X	X
26	04041-28	Flatwasher, 7/16" (.469 x 1.75 x .25)	X	X
27	04030-05	Lockwasher, 7/16" Spring	X	X
28	04002-05	Bolt, Hex Head M10-1.5 x 65mm	X	
	04001-150	Bolt, Hex Head 7/16-20 x 2.75"		X
29	422534	Plate, Backing	X	X
30	48030-09	Clamp, Wire Loom	X	X
31	04021-10	Nut, Hex Elastic Stop 5/16-18	X	X
32	481716	Rubber Pad, Clutch Stop	X	X
33	422533	Retainer, Clutch Stop	X	X
34	04001-12	Bolt, Hex Head 5/16-18 x 1.75"	X	X
35	481934	Pulley, Pump Drive-Engine	X	X
36	04001-22	Bolt, Hex Head 3/8-16 x 2.75"	X	X
37	04019-02	Nut, Hex Serrated Flange 1/4-20	X	X
38	481873	Chain	X	X
39	04001-59	Bolt, Hex Head 1/4-20 x 1.25"	X	X
40	04021-09	Nut, Hex Elastic Stop 3/8-16	X	X
41	481835	Spring, Pump Belt Idler	X	X
42	04019-03	Nut, Hex Serrated Flange 5/16-18	X	X
43	04063-24	Key, 1/4 x 1/4 x 2.75"	X	X
44	04063-20	Key, 1/4 x 1/4 x 1"	X	X
45	04043-04	Flatwasher, 3/8" (.391 x .938 x .105)	X	X
46	48473	Pulley, Idler 4.5"	X	X
47	48586	Pulley, Pump Shaft	X	X
48	04012-04	Setscrew, 5/16-18 x 3/8"	X	X
49	04030-04	Lockwasher, 3/8" Spring	X	X
50	04063-14	Key, 5mm x 5mm x 25mm	X	X
51	422713	Base, Idler Pivot	X	X
52	43032	Swivel Joint	X	X
53	451109	Idler Arm Weldment, Pump	X	X
54	04001-77	Bolt, Hex Head 3/8-16 x 3.5"	X	X
55	04021-05	Locknut, 3/8-16 Center Lock	X	X
56	04001-54	Bolt, Hex Head 3/8-16 x 3"	X	X
57	43504	Pivot, Idler (Long)	X	X
58	48224	Ball Bearings	X	X
59	481876	Ring, Split	X	X
60	04001-151	Bolt, Heax Head 3/8-16x2.63	X	X
61	48494-02	Spring, Return	X	X

HANDLE ASSEMBLY

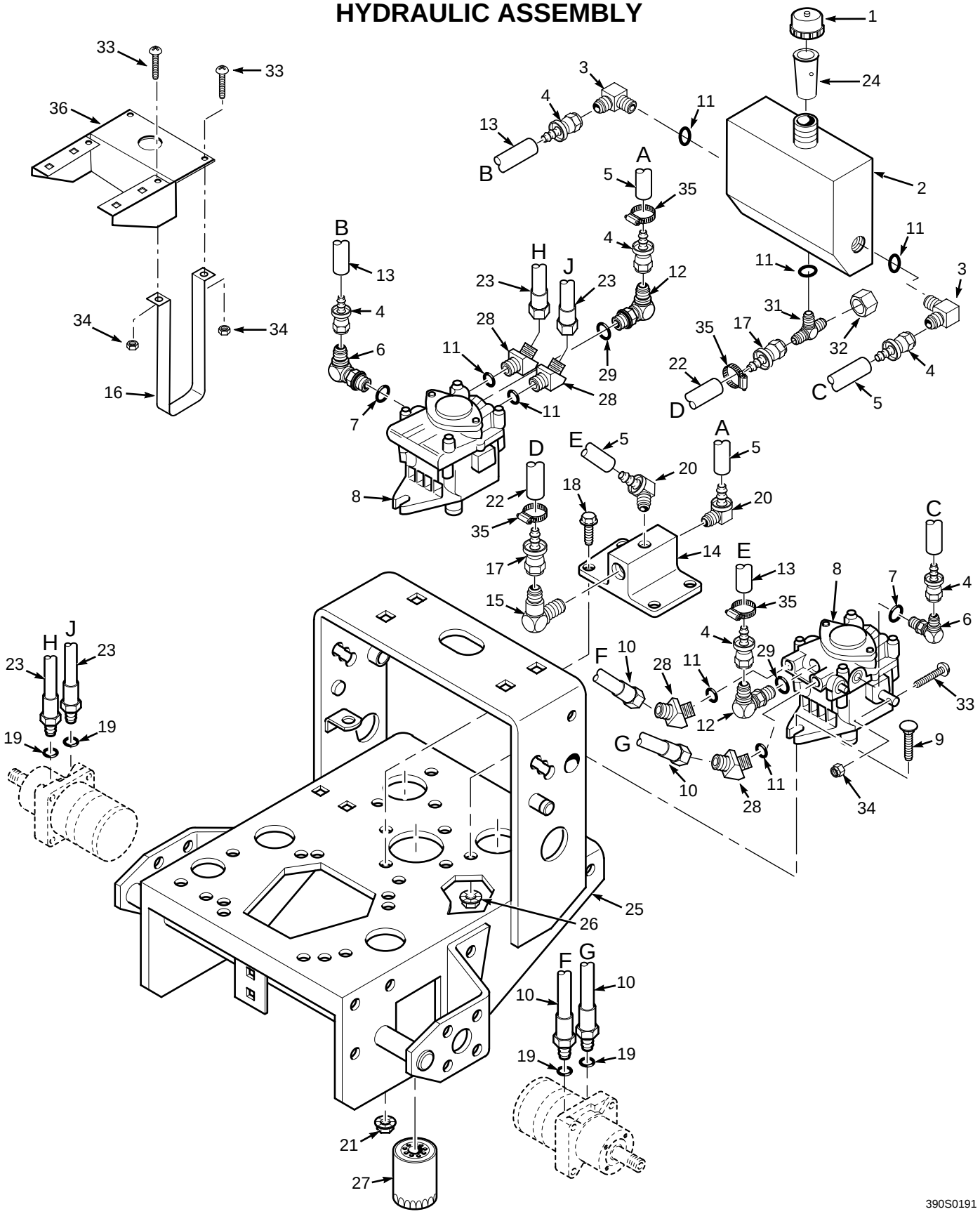


HANDLE ASSEMBLY

Ref. No.	Part No.	Description	15KH	17KA
1	461128	Upper Handle Wlmt. W/Decals	x	x
1	461129	Upper Handle Wlmt. W/Decals	x	x
2	42675	Quadrant, Speed Control	x	x
3	04062-02	Hairpin, .094 x 1.19	x	x
4	45282	Lever, Speed Adjustment	x	x
5	43086	Bushing, Speed Adjustment Lever	x	x
6	*	Hex Head Bolt, 3/8-16 x 1.5"	x	x
7	48493-01	Ball Plunger	x	x
8	48092	Knob, Speed Adjustment	x	x
9	04014-01	Capscrew, 1/4-20 x 3/4" FHHS	x	x
10	04021-08	Nut, 1/4-20 Elastic Stop	x	x
11	04021-10	Nut, 5/16-18 Elastic Stop	x	x
12	*	Screw, #10-32 x 1/2" PW HD	x	x
13	48946	Throttle Control	x	x
14	04019-01	Nut, #10-32 Serr. Flange	x	x
15	48312	Bushing	x	x
16	45572	Handle, Oper. Presence-RH	x	x
	45573	Handle, Oper. Presence-LH	x	x
17	481687	Switch,Elec.Clutch Eng. (incl.Nut)	x	x
18	481865	Wire Harness, Manual Start	x	x
19	48609	Key Switch, Manual Srt. (incl. Hdw)	x	x
20	46942	Neutral Latch-RH	x	x
	46941	Neutral Latch-LH	x	x
21	48717	Switch, Neutral Interlock	x	x
22	48159	Grip	x	x
23	04032-01	Washer, Curved Spring	x	x
24	*	Flat Washer	x	x
25	04021-10	Nut, 5/16-18 Elastic Stop	x	x
26	*	Hex Head Bolt, 5/16-18 x 2"	x	x
27	*	Hex Hd. Bolt, 5/16-18 x 2.5"	x	x
28	46089	Lever, Steering Control (incl. 29)	x	x
29	48144	Grip, Steering Control	x	x
30	44134	Rod, Steering Control	x	x
31	48951	Spring, Handle Return	x	x
32	*	Capscr., 3/8-16 x 1" Ser. Flange	x	x
33	481866	Spring	x	x
34	04019-04	Nut, 3/8-16 Serr. Flange	x	x
35	44051	Rod Speed Control	x	x
36	451107	Bellcrank, Speed Control	x	x
37	*	Setscrew, 1/4-28 x .25"	x	x
38	46335	Cam, Speed Control (incl. SS)	x	x
39	43166	Jackshaft, Speed Control	x	x
40	04063-13	Key, 1/8 x 1/2" Woodruff	x	x
41	*	Roll Pin, 3/16-.75	x	x
42	*	Nut, Elastic Stop 3/8-16	x	x
43	48223	Flange, Bearing	x	x
44	*	Capscrew, 5/16-18 x 1" Serr. Flg.	x	x
45	04019-03	Nut, 5/16-18 Serrated Flange	x	x
46	422795	Plate, Side	x	x
47	43307	Support, Neutral Support	x	x
48	48409	Bearing, Speed Ctrl. Bellcrank	x	x
49	*	Hex Head Bolt, 5/16-18 x 1-3/4"	x	x
50	48494-02	Spring, Return	x	x
51	43522	Spacer, Side Plate	x	x
52	04041-08S	Flat Wshr., 3/4-.766 x 1.25 x .035	x	x
53	04063-07	Key, Woodruff, 3/16 x .75"	x	x
54	04001-59	Bolt, Hex Head, 1/4-20 x 1.25	x	x
55	*	HH Bolt,5/16-18 x .75"	x	x
56	04030-03	Lock Washer, 5/16	x	x
57	04050-02	Clip, Retaining .750 diameter	x	x
58	48224	Bearing, Ball Neutral Return	x	x
59	46747	Cam, Neutral (incl. grease ftng.)	x	x
60	48114-05	Grease Fitting, 1/4-28 UNF	x	x
61	04050-01	Retaining Ring, 5/8 Ext. "E"	x	x
62	*	Hex Head Bolt, 5/16-18 x 1"	x	x
63	45745	Lever, Speed Control	x	x
64	*	Bolt, Serr. Flange 1/4-20 x.75"	x	x
65	04004-37	Stud, 3/8-16x4.5	x	x
66	04041-07	Flat Wshr., 15/16 x .3906 x 12 ga	x	x
67	By Ref.	Deck, Engine	x	x
68	04001-10	Hex Head Bolt, 5/16-18 x 1.25"	x	x
69	481072	Choke Control	x	x
70	04001-152	Bolt, Hex Head 3/8-16 x 4.25"	x	x
71	42413	Fuse Holder	x	x
72	43520	Swivel Joint, Steering Rod	x	x
73	43524	Bushing	x	x
74	48298	Blade Fuse, 20A	x	x
75	04021-01	Nut, #10-32 Elastic Stop	x	x
76	*	Screw, #10-32 x 1.5" Phillips	x	x
77	04030-02	Lockwasher, 1/4"	x	x
78	43032	Swivel Joint	x	x
79	44125	Rod, Brake Lever	x	x
80	04001-21	Hex Hd. Bolt, 3/8-16 x 1.75"	x	x
81	*	Soc. Hd. Capscrew, #8-32 x .5"	x	x
82	04021-09	Nut, 3/8-16 Elastic Stop	x	x
83	04041-23	Washer #8-.170 x .375 x .032	x	x
84	*	Bolt, 1/4-20 x .75"	x	x
85	43212	Spacer	x	x
86	46954	Parking Brake Lever with Grip	x	x
87	481476	Switch, Safety	x	x
88	04020-14	Nut, 3/8-24	x	x
89	481411	Bushing, bearing Retainer	x	x
90	481420	Bearing, Neutral Lock	x	x
91	48342	Grip, Parking Brake	x	x
92	48464	Ball Joint, RH Thread	x	x
93	04062-01	Hairpin, .094 x 1.62"	x	x
94	481622	Bracket, Choke Mtg.	x	x
95	44126	Rod, Lower Brake	x	x
96	422273	Plate, Coupler	x	x
97	451113	Shaft, Pump Control	x	x
98	481879	Spring	x	x
99	481885-03	Knob, Tracking Adjustment	x	x
100	48829	Block, Pump Control	x	x
101	49236	Control, LH (inc. bush. & decal)	x	x
	49237	Control, RH (inc. bush. & decal)	x	x
102	481474	Switch, Parking Brake	x	x
103	421203	Plate, Threaded	x	x

* Common hardware which should be purchased locally. All bolts are Grade 5 plated, all other fasteners zinc plated.

HYDRAULIC ASSEMBLY



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HYDRAULIC ASSEMBLY

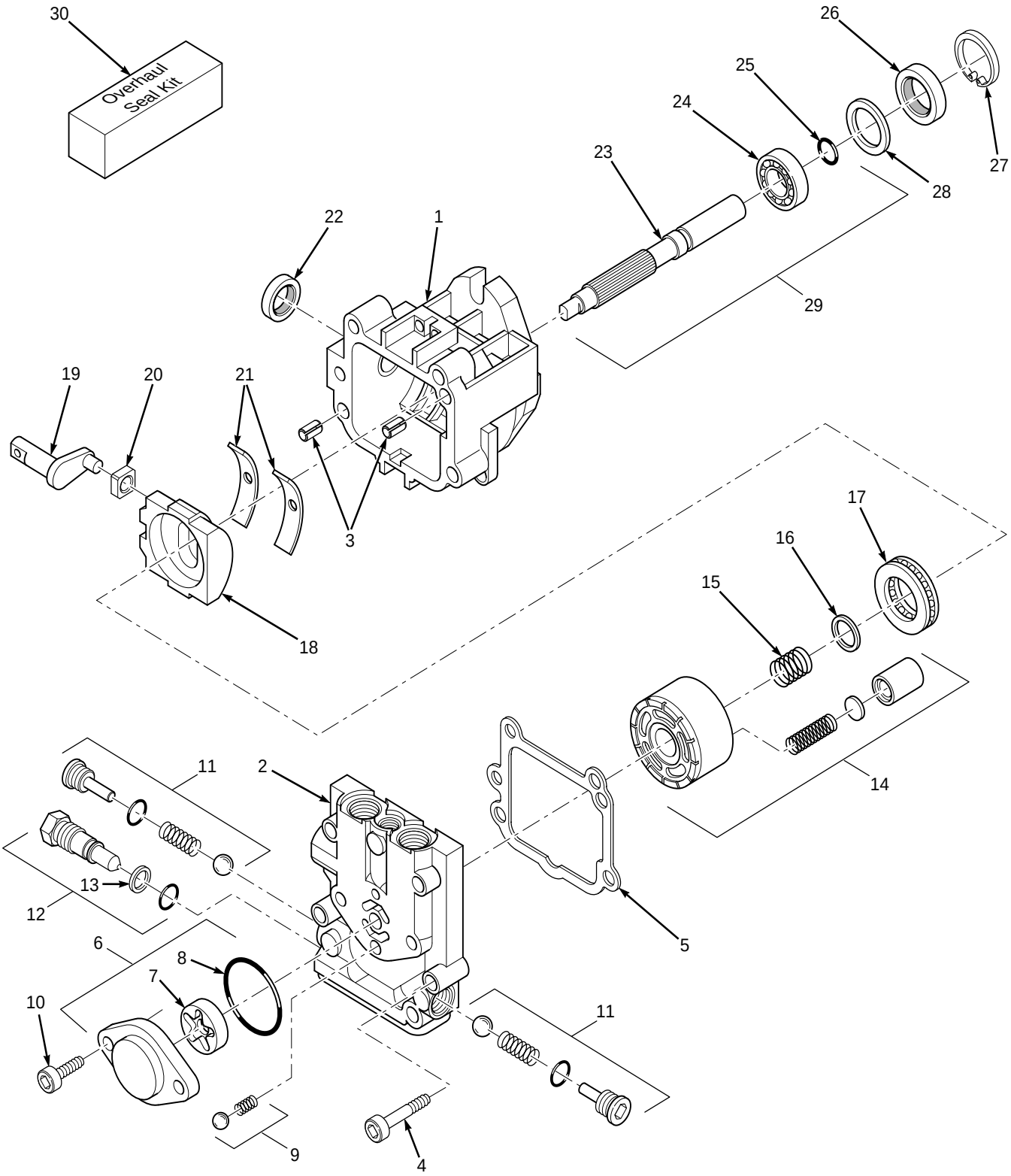
Ref. No.	Part Number	Description	15KH	17KA
1	481164	Cap, Oil Reservoir	x	x
2	461188	Oil Reservoir (With Fittings- Small Frame)	x	x
3	48350-04	Elbow, 90 deg. 7/16-20 x 9/16-18	x	x
4	48353-02	Coupling, 7/16-20 SAE Flare Swivel to 1/4" Hose Push On	x	x
5	48482	Hose, 1/4" ID - 7" Long (Order By The Inch)	x	x
6	48350-04	Elbow, 90 deg. 7/16-20 JIC to 9/16-18 "O" Ring	x	x
7	48603-06	O-Ring	x	x
8	**	Pump, Hydro-Gear BDP-10L117	x	x
9	04003-11	Bolt, Carriage, 3/8-16 x 1.25"	x	x
10	481265	Hose, Pump to Wheel Motor	x	x
11	48603-02	O-Ring	x	x
12	48350-03	Elbow, 90 deg., 1/2 NPT	x	x
13	48482	Hose, 1/4" ID - 5" Long (Order By The Inch)	x	x
14	48471-02	Oil Filter Base	x	x
15	48486-03	Elbow, 90 deg. 1/2" NPT	x	x
16	422794	Strap, Hydraulic Tank	x	x
17	48936-03	Coupling, 3/4-16 SAE to 1/2" Hose Push On	x	x
18	04017-16	Capscrew, 5/16-18 x .75" Serr. Flange	x	x
19	48603-04	O-Ring	x	x
20	48486-01	Elbow, 90 deg. Male 1/4 NPT to 1/4 Hose Push On	x	x
21	04019-03	Nut, 5/16-18 Serr. Flange	x	x
22	481875	Hose, Formed 1/2" ID	x	x
23	481849	Hose, Pump to Wheel Motor	x	x
24	481507	Tube, Filler Neck	x	x
25	461182	Engine Deck (16" Wide) W/Decals	x	x
26	04019-04	Nut, 3/8-16 Serr Flange	x	x
27	48758	Oil Filter	x	x
28	48485-01	Elbow, 45 Deg.-3/4-16 JIC Male x Male 3/4-16 O-Ring	x	x
29	48603-03	O-Ring	x	x
30	481537-02	Coupling, 3/8 Pipe to 1/2 Push-on	x	x
31	48810-01	T-Fitting, 1/2 (3/4-16)	x	x
32	48571-02	Cap, 3/4-16	x	x
33	04010-10	Screw, 1/4-20 x 2.0" Round Head Phillips	x	x
34	04021-08	Nut, 1/4-20	x	x
35	48136-05	Clamp, .87 max dia.	x	x
36	422793	Bracket, Hydraulic Tank	x	x

* Common hardware which should be purchased locally. All bolts are Grade 5 plated, all other fasteners zinc plated.

** Purchase through your Hydro-Gear Distributor.

HYDRAULIC PUMP ASSEMBLY (BDP-10L117)

(Order parts from Hydro-Gear)



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HYDRAULIC PUMP ASSEMBLY

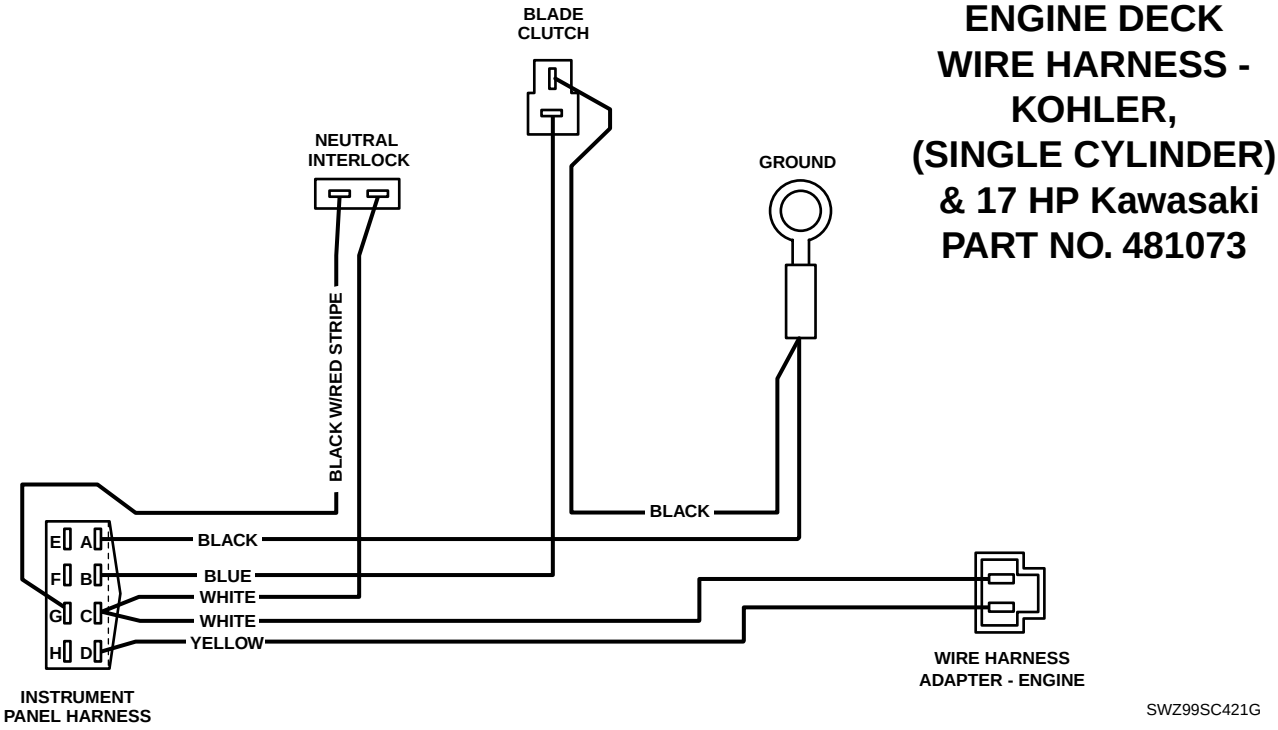
Ref. No.	Part Number	Description
1	2513017	Housing Kit (Incl. Housing, Journal Bearing)
2	2513016	End Cap
3	9004800-2506	Straight Headless Pin
4	9007314-0810	Socket Head Screw
5	2003067	End Cap Gasket
6	2513027	Charge Pump Kit (Incl. Charge Cover, Gerotor Assy., O-Ring)
7	50273	Gerotor Assembly
8	9004101-1340	O-Ring
9	2510064	Charge Relief Valve Kit
10	50095	Socket Head Screw
11	2510027	Check Valve Kit (Incl. Check Plug, Spring, O-Ring, Orifice Check Valve)
12	2513030	Bypass Valve Kit (Incl. Bypass Valve, O-Ring, Back-up Ring)
13	9006110-0120	Backup Ring
14	70079	Cylinder Block Kit
15	2003014	Block Spring
16	2003017	Block Thrust Washer
17	2003044	Roller Thrust Bearing
18	2003087	Swash Plate
19	2003005	Trunnion Arm
20	2000015	Guide Slot
21	2003023	Cradle Bearing
22	9008000-0126	Lip Seal
23	2003020	Pump Shaft
24	2003043	Ball Bearing
25	2003016	Retaining Ring
26	9008000-0128	Lip Seal
27	2003052	Retaining Ring
28	2003018	Spacer
29	2513038	Shaft Kit (Incl. Pump Shaft, Ball Bearing, Retaining Ring)
30	2513018	Overhaul Seal Kit (Incl. Gasket, Trunnion Seal, Input Shaft Seal, Charge Pump O-Ring)

* Common hardware which should be purchased locally. All bolts Grade 5 plated, all other fasteners zinc plated.

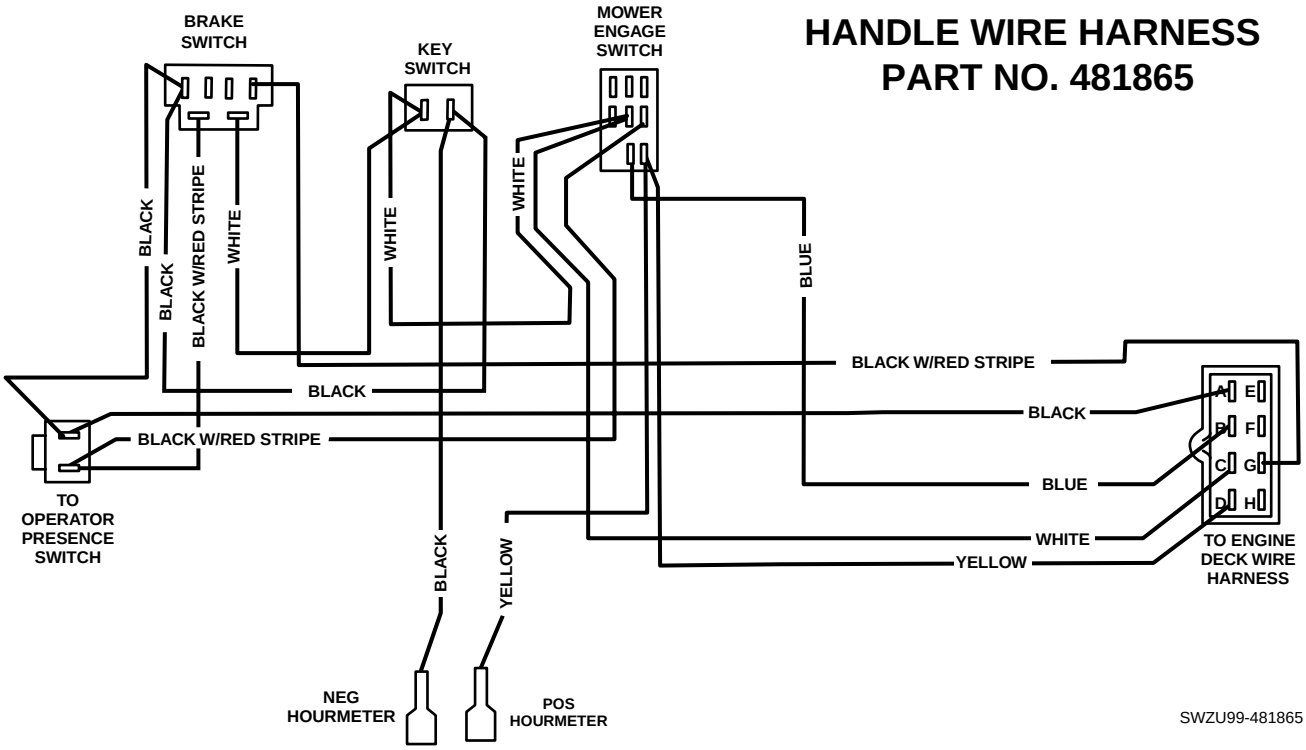
-NOTE-

Hydraulic pump assembly parts are for reference only. Purchase parts from your Hydro-Gear distributor.

ENGINE DECK WIRE HARNESS - KOHLER, (SINGLE CYLINDER) & 17 HP Kawasaki PART NO. 481073



HANDLE WIRE HARNESS PART NO. 481865



REPLACEMENT DECALS & INFORMATION

48072

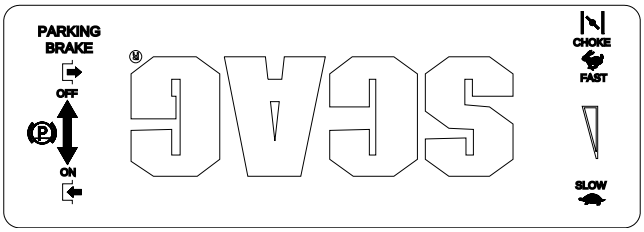
WARNING
ROTATING BLADES AND BELTS
• KEEP HANDS, FEET & CLOTHING CLEAR
• KEEP ALL GUARDS IN PLACE
• SHUT OFF ENGINE & DISENGAGE BLADE CLUTCH BEFORE SERVICING
• CLEAR AREA OF DEBRIS BEFORE MOWING
• USE CAUTION IN DIRECTING DISCHARGE
• KEEP BYSTANDERS, CHILDREN & PETS AWAY
• READ INSTRUCTION MANUAL BEFORE OPERATING
DO NOT OPERATE WITHOUT DISCHARGE CHUTE, MULCHING KIT, OR ENTIRE GRASS CATCHER INSTALLED
481040

481040

48

36" - 48316
48" - 48318

48071



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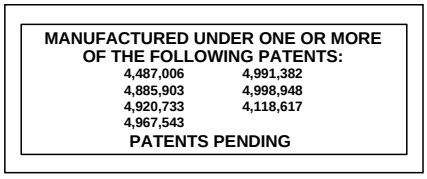
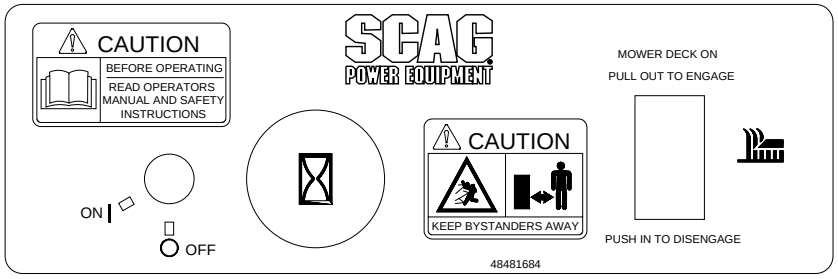
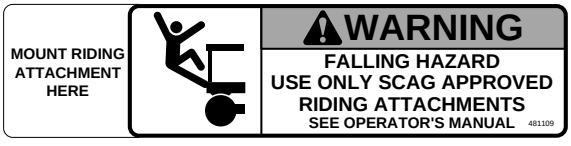


48656



481684

48404

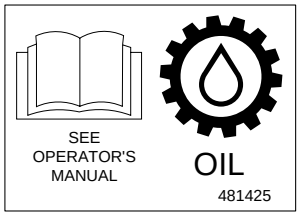


481109

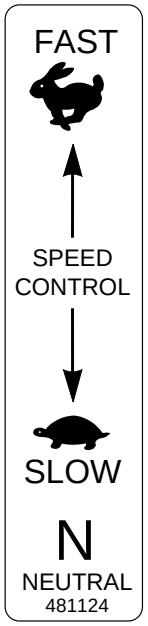
481039

REPLACEMENT DECALS & INFORMATION

481878



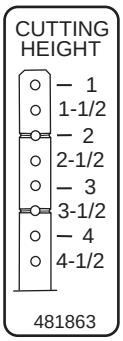
481425



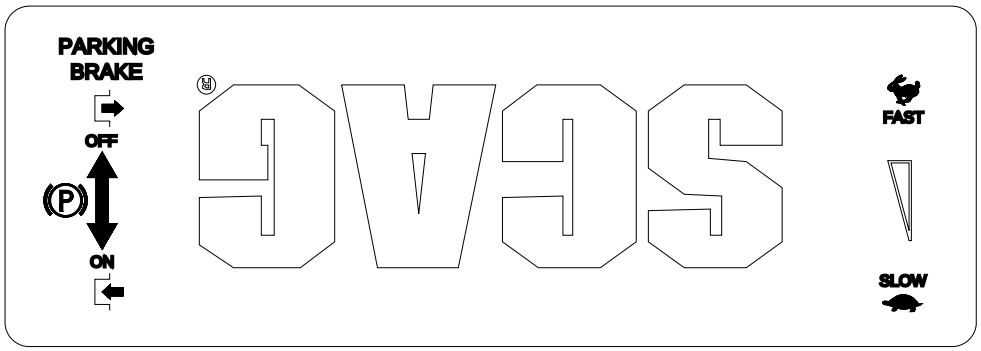
481124

48555 - 16"

481906



481863



481438

LIMITED WARRANTY-COMMERCIAL EQUIPMENT

Any part of the Scag commercial mower manufactured by Scag Power Equipment and found, in the reasonable judgment of Scag, to be defective in materials or workmanship, will be repaired or replaced by an Authorized Scag Service Dealer without charge for parts and labor. This warranty is limited to the original purchaser and is not transferable. Proof of purchase will be required by the dealer to substantiate any warranty claims. All warranty work must be performed by an Authorized Scag Service Dealer.
This warranty is limited to the following specified periods from the date of the original retail purchase for defects in materials or workmanship:

* Wear items including drive belts, blades, hoses and tires are warranted for 90 days.
* Batteries are covered for 90 days.
* Frame, deck, and structural components including oil reservoir, fittings, and oil cooler are warranted for 1 year.
* Engines and electric starters are covered by the manufacturer's warranty period.
* Drive system components are warranted for 1 year by the component manufacturer, in conjunction with Scag Power Equipment. (Excluding fittings, hoses, cooling system, oil reservoir, drive belts).
* Electric clutches have a Limited Warranty for 2 years. (Parts and labor 1st year; Parts Only 2nd year)
* Cutter Spindle Assemblies 46631 have a Limited Warranty for three years (Parts and labor 1st year; Parts only 2nd and 3rd year).

Any Scag product used for rental purposes is covered by a 90 day warranty.

The Scag mower, including any defective part must be returned to an Authorized Scag Service Dealer within the warranty period. The expense of delivering the mower to the dealer for warranty work and the expense of returning it to the owner after repair will be paid for by the owner. Scag's responsibility is limited to making the required repairs and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Scag mower.

This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual. The warranty does not apply to any damage to the mower that is the result of improper maintenance, or to any mower or parts that have not been assembled or installed as specified in the Operator's Manual and Assembly Manual. The warranty does not cover any mower that has been altered or modified, changing performance or durability. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the reasonable judgment of Scag, are either incompatible with the Scag mower or adversely affect its operation, performance or durability.

Scag Power Equipment reserves the right to change or improve the design of any mower without assuming any obligation to modify any mower previously manufactured.

All other implied warranties are limited in duration to the one (1) year warranty period or ninety (90) days for mowers used for rental purpose. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate one year or ninety day warranty period. Scag's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts and Scag does not assume or authorize anyone to assume for them any other obligation. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Scag assumes no responsibility for incidental, consequential or other damages including, but not limited to, expense for gasoline, expense of delivering the mower to an Authorized Scag Service Dealer and expense of returning it to the owner, mechanic's travel time, telephone or telegram charges, rental of a like product during the time warranty repairs are being performed, travel, loss or damage to personal property, loss of revenue, loss of use of the mower, loss of time or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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DIVISION OF METALCRAFT OF MAYVILLE, INC.

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